



# HARVARD | BUSINESS | SCHOOL

March 22, 2024

## **Ariel D. Stern**

Harvard Business School  
Morgan Hall 433  
Soldiers Field Road  
Boston, MA 02163, USA  
Email: [astern@hbs.edu](mailto:astern@hbs.edu)  
Phone: +1 (617) 495-2332

## **EDUCATION**

- 2014 Ph.D. in Public Policy, Harvard University & Harvard Kennedy School of Government, Cambridge, MA, USA  
Dissertation: *Essays in the Economics of Health Care and the Regulation of Medical Technology*  
Committee: Amitabh Chandra (chair), David Cutler, Scott Stern, Daniel Carpenter
- 2008 M.A. in Economics, Freie Universität, Berlin, Germany / Hunter College, New York, NY, USA
- 2005 A.B. in Economics, (High Honors, Women in Science Fellow, Presidential Scholar), Dartmouth College, Hanover, NH, USA

## **HARVARD UNIVERSITY**

### **Appointments**

- As of 4-2024 Alexander von Humboldt Professor for Digital Health, Economics and Policy, Hasso Plattner Institute & Full Professor, University of Potsdam
- 2019 – present Poronui Associate Professor of Business Administration, Harvard Business School
- 2021 – 2022 Visiting Scholar for Digital Health Economics and Policy, Hasso Plattner Institute
- 2017 – 2019 Hellman Faculty Fellow, Harvard Business School
- 2014 – 2019 Assistant Professor of Business Administration, Harvard Business School

### **Affiliations**

- 2023 – Berlin Centre for Consumer Policies
- 2022 – German Institute for Economic Research (DIW Berlin)
- 2017 – Harvard-MIT Center for Regulatory Science (Harvard Medical School, Harvard Program in Therapeutic Science)
- 2016 – Ariadne Labs (Brigham and Women's Hospital, Harvard Chan School of Public Health)

### **Teaching Assignments**

- 2018 – present *Transforming Health Care Delivery* (Harvard Business School, MBA elective curriculum)

2018 – present Harvard Medical School Executive Education: *Surgical Leadership Program, Leaders in Medicine Program*, various custom programs

2016 – present Harvard Business School Executive Education: *Leading Product Innovation, Managing Health Care Delivery, Competing on Business Analytics and Big Data, Accelerating Innovation in Precision Medicine*, various custom programs

2016 – present Harvard Business School Online: *Managing Your Career Development, Developing Yourself as a Leader*

2014 – present Doctoral Course Sessions: *Empirical Technology and Operations Management* (Harvard Business School), *TOM Doctoral Student seminar* (Harvard Business School), *Core Course in Health Policy* (1<sup>st</sup> year required curriculum, Health Policy PhD Program), *Health Economics Reading Seminar* (Harvard GSAS), *MD/MBA Seminar Series* (Harvard Business School and Harvard Medical School), *Principles and Practice of Drug Development* (MIT & Harvard Medical School)

2014 – 2017 *Technology and Operations Management* (Harvard Business School, MBA required curriculum)

### **Other graduate teaching**

2020 - 2022 Instructor: *21<sup>st</sup> Century Health Care Businesses: Regulatory, Legal, and Policy Aspects*, Guest lecturer: *Healthcare Fundamentals and Digital Health Trends* (Masters Program in Digital Health, Hasso Plattner Institute, University of Potsdam)

June 2019 PhD Short Course: *Topics in Health Care Economics* (Düsseldorf Institute for Competition Economics, Heinrich Heine University of Düsseldorf)

2011 Head Teaching Fellow: Harvard College: *U.S. Health Care Policy*, Fall 2011

2010 – 2012 Teaching Fellow: Harvard Kennedy School of Government  
*Quantitative Methods I* (accelerated statistics), Fall 2010  
*Quantitative Methods II* (accelerated econometrics), Spring 2010, 2011, 2012

### **OTHER EXPERIENCE**

2022 – Present Venture Partner, *Springboard Health Angels*

2020 – 2021 Director, International Health Economics, *Health Innovation Hub*, Berlin, Germany

2009 – 2011 Consultant, *LeapFrog Investments*, New York, NY and Edinburgh, UK

2008 – 2009 Robert Bosch Foundation Fellowship, *German Development Bank (KfW) & Direktzu GmbH*, Frankfurt and Berlin, Germany

Summer 2008 Summer Associate, *LeapFrog Investments*, New York, NY

2007 – 2008 Associate Economist, *Bear, Stearns & Co. Inc.*, New York, NY

2006 – 2007 Research Associate, *Federal Reserve Bank of New York*, New York, NY

2005 – 2006 Research Fellow, *German Institute for Economic Research (DIW)*, Berlin, Germany

### **HONORS, FELLOWSHIPS, AND GRANTS**

2023 Selected for Alexander von Humboldt Professorship, German Federal Ministry of Education and Research (as of 4-2024)

2020 *Finalist*, National Institute for Health Care Management Foundation Annual Health Care Research Award

2018 – 2021 Kauffman Foundation Junior Faculty Fellowship

2017 – 2019 Hellman Faculty Fellowship, Harvard Business School

2017 – 2019	NBER-IFS International Research Network on Valuing Health Research, Pilot Project R24-08-US: “When Does Public Research Funding Address Private Market Failures?” Grant R24 AG048059 from the National Institute on Aging
2013 – 2014	Harvard University Dissertation Completion Fellowship
2012	Harvard Kennedy School Taubman Center Fellowship
2011 – 2014	NBER Pre-Doctoral Fellowship in Aging and Health Economics
2011	Dean’s Award for Excellence in Student Teaching, Harvard Kennedy School
2011	CSWEP Summer Economics Fellowship, American Economic Association
2010 – 2014	NSF-IGERT Doctoral Fellow, Multidisciplinary Program in Inequality & Social Policy, Harvard University
2009 – 2011	Harvard Kennedy School Graduate Fellowship
2008 – 2009	Robert Bosch Foundation Fellowship for Young American Leaders
2005 – 2006	German Academic Exchange Service (DAAD) Graduate Research Fellowship
2005	Haney Prize for Best Senior Honors Thesis in Economics, Dartmouth College
2003	Andrew Warden Edson Memorial Prize in Government, Dartmouth College

## **PUBLICATIONS**

### Peer-Reviewed Articles:

Chandra, Amitabh, Jennifer L. Kao, Kathleen Miller, and **Ariel D. Stern**. “Regulatory Incentives for Pharmaceutical Innovation: the FDA’s Breakthrough Therapy Designation.” NBER Working Paper 30712 (Accepted at *Review of Economics and Statistics*).

Masanneck, Lars and **Ariel D. Stern**. “Tracing Digital Therapeutics Research Across Medical Specialties: Evidence from ClinicalTrials.gov.” Accepted at *Clinical Pharmacology and Therapeutics*.

Tang, Mitchell, Rebecca G. Mishuris, Lily Payvandi, and **Ariel D. Stern**. "Differences in Care Team Response to Patient Portal Messages by Patient Race and Ethnicity." *JAMA Network Open* 7, no. 3 (2024): e242618-e242618.

Aboy, Mateo, Cristina Crespo, and **Ariel D. Stern**. “Beyond the 510(k): The regulation of novel moderate-risk medical devices, intellectual property considerations, and innovation incentives in the FDA’s De Novo pathway.” *npj Digital Medicine* 7, 29 (2024). <https://doi.org/10.1038/s41746-024-01021-y>

Marra, Caroline and **Ariel D. Stern**. “Tepid Uptake of Digital Health Technologies in Clinical Trials by Pharmaceutical and Medical Device Firms.” Forthcoming in *Clinical Pharmacology and Therapeutics*, published online February (2023): <https://doi.org/10.1002/cpt.3192>

Brönneke, Jan Benedikt, Annika Herr, Simon Reif, and **Ariel D. Stern**. “Dynamic HTA for Digital Health Solutions: Opportunities and Challenges for Patient-Centered Evaluation.” *International Journal of Technology Assessment in Health Care* (2023).

Tang, Mitchell, Carter H. Nakamoto, **Ariel D. Stern**, Jose R. Zubizarreta, Felipe O. Marcondes, Lori Uscher-Pines, Lee H. Schwamm, and Ateev Mehrotra. "Effects of Remote Patient Monitoring

Use on Care Outcomes Among Medicare Patients with Hypertension." *Annals of Internal Medicine* (2023).

Krieger, Joshua L., Kyle R. Myers, and **Ariel D. Stern**. "How Important is Editorial Gatekeeping? Evidence from Top Biomedical Journals." *Review of Economics and Statistics* (May 2023). [http://doi.org/10.1162/rest\\_a\\_01340](http://doi.org/10.1162/rest_a_01340).

Raab, René, Arne Küderle, Anastasiya Zakreuskaya, **Ariel D. Stern**, Jochen Klucken, Georgios Kaissis, Daniel Rueckert, Susanne Boll, Roland Eils, Harald Wagener, Bjoern M. Eskofier, "Federated electronic health records for the European Health Data Space." *The Lancet Digital Health*. 2023, ISSN 2589-7500, [https://doi.org/10.1016/S2589-7500\(23\)00156-5](https://doi.org/10.1016/S2589-7500(23)00156-5).

van Kessel, Robin, Divya Srivastava, Ilias Kyriopoulos, Giovanni Monti, David Novillo-Ortiz, Ran Milman, Wojciech Wilhelm Zhang-Czabanowski, Greta Nasi, **Ariel D. Stern**, George Wharton, Elias Mossialos, "Digital Health Reimbursement Strategies of 8 European Countries and Israel: Scoping Review and Policy Mapping." *JMIR Mhealth Uhealth* 2023;11:e49003, <https://mhealth.jmir.org/2023/1/e49003> (2023)

Tang Mitchell, Yashoda Sharma, Jennifer C. Goldsack Jennifer C, **Ariel D. Stern**. "Building the Business Case for an Inclusive Approach to Digital Health Measurement with a Web App (Market Opportunity Calculator): Instrument Development Study." *JMIR Formative Research*. 7:e45713 (2023)

Masanneck, Lars, Pauline Gieseler, William Gordon, Sven Meuth, and **Ariel D. Stern**. "Evidence from ClinicalTrials.gov on the growth of Digital Health Technologies in neurology trials" *npj Digital Medicine*. 6, 23 (2023). <https://doi.org/10.1038/s41746-023-00767-1>

Everhart, Alexander O., Soumya Sen, **Ariel D. Stern**, Yi Zhu, Pinar Karaca-Mandic. Association Between Regulatory Submission Characteristics and Recalls of Medical Devices Receiving 510(k) Clearance. *JAMA*. 2023;329(2):144–156. doi:10.1001/jama.2022.22974

\* Letter to the Editor: Everhart AO, Zhu Y, Stern AD. Regulatory Submission Characteristics and Recalls of Medical Devices Receiving 510(k) Clearance—Reply. *JAMA*. 2023;329(18):1609–1610. doi:10.1001/jama.2023.4095 (May 2023)

Tang, Mitchell, Ateev Mehrotra, and **Ariel D. Stern**. "Rapid Growth of Remote Patient Monitoring Is Driven By A Small Number Of Primary Care Providers" *Health Affairs* 41:9, 1248-1254 (2022)

Torous, John, **Ariel D. Stern**, and Florence Bourgeois. "Regulatory Considerations to Keep Pace with Innovation in Digital Health Products." *npj Digital Medicine* 5, 12 (2022). <https://doi.org/10.1038/s41746-022-00668-9>

Tang Mitchell, Carter H. Nakamoto, **Ariel D. Stern**, Ateev Mehrotra. Trends in Remote Patient Monitoring Use in Traditional Medicare. *JAMA Internal Medicine*. Published online August 01, 2022. doi:10.1001/jamainternmed.2022.3043

**Stern, Ariel D.**, Avi Goldfarb, Timo Minssen, and W. Nicholson Price. "AI Insurance: How Liability Insurance Can Drive the Responsible Adoption of Medical Artificial Intelligence." *NEJM Catalyst Innovations in Care Delivery* 3(4) doi: <https://doi.org/10.1056/CAT.21.0242> (April 2022)

Essén, Anna, **Ariel D. Stern**, Christoffer Bjerre Haase, Josip Car, Felix Greaves, Dragana Paparova, Steven Vandeput, Rik Wehrens, and David W. Bates. “Health app policy: international comparison of nine countries’ approaches.” *npj Digital Medicine* 5, 31 (2022). <https://doi.org/10.1038/s41746-022-00573-1>

**Stern, Ariel D.**, et al. “Advancing digital health applications: Priorities for innovation in real-world evidence generation.” *The Lancet Digital Health* 4(3) doi: [https://doi.org/10.1016/S2589-7500\(21\)00292-2](https://doi.org/10.1016/S2589-7500(21)00292-2) (March 2022)

Brönneke, Jan B., Jennifer Müller, Konstantinos Mouratis, Julia Hagen, and **Ariel D. Stern**. “Regulatory, Legal, and Market Aspects of Smart Wearables for Cardiac Monitoring” *Sensors* 21, no. 14: 4937. <https://doi.org/10.3390/s21144937> (July 2021)

\* Selected as *Editor’s Choice Article*

Marra, Caroline, William J. Gordon, and **Ariel D. Stern**. “Use of connected digital products in clinical research following the COVID-19 pandemic: a comprehensive analysis of clinical trials” *BMJ Open* doi: 10.1136/bmjopen-2020-047341 (June 2021)

**Stern, Ariel D.**, Jacqueline L. Chen, Melissa Ouellet, Mark R. Trusheim, Zeid El-Kilani, Amber Jessup, and Ernst R. Berndt. “Biosimilars and Follow-on Products in the United States: Adoption, Prices, and Users.” *Health Affairs*, 40(6) (June 2021)

\* Letter to the Editor: **Stern, Ariel D.**, & Trusheim, M. Biosimilars And Follow-On Products: The Authors Reply. *Health Affairs*, 40(9), 1516. (September 2021)

Mecklai, Keizra, Nicholas Smith, **Ariel D. Stern**, and Daniel B.Kramer. “Remote Patient Monitoring – Overdue or Overused?” *New England Journal of Medicine* 384:1384-1386 (April 2021).

Gordon, William J., Andrea R. Coravos, and **Ariel D. Stern** “Ushering in safe, effective, secure, and ethical medicine in the digital era” *npj Digital Medicine* 4(56) (March 2021).

Harish, Vinyas, Felipe Morgado, **Ariel D. Stern**, and Sunit Das. “Artificial Intelligence and Clinical Decision Making: The New Nature of Medical Uncertainty.” *Academic Medicine: Journal of the Association of American Medical Colleges* 96(1) (January 2021).

Alon Noy, **Ariel D. Stern**, and John Torous “Assessing Food and Drug Administration’s Risk-Based Framework for Software Precertification with Top U.S. Health Apps: Quality Improvement Study” *JMIR mHealth and uHealth* (July 2020).

Pian, Julia, Amitabh Chandra, and **Ariel D. Stern** “The Past, Present, and (Near) Future of Gene Therapy and Gene Editing” *NEJM Catalyst Innovations in Care Delivery*, 1(5) (September 2020).

Gerke, Sara, **Ariel D. Stern**, and Timo Minssen. “Germany’s Digital Health Reforms in the COVID-19 Era: Lessons and Opportunities for Other Countries” *npj Digital Medicine* 3(94) (July 2020).

Lauenroth, Victoria, Aaron S. Kesselheim, Ameet Sarpatwari, and **Ariel D. Stern** “Lessons from the impact of price regulation on the pricing of anticancer drugs in Germany” *Health Affairs*, 39(7) (July 2020) [1185-1193].

Marra, Caroline, Jacqueline Chen, Andrea R. Corovos, and **Ariel D. Stern** “Quantifying the Use of Connected Digital Products in Clinical Research.” *npj Digital Medicine* 3(50) (April 2020).

Lite, Samuel S., William J. Gordon, and **Ariel D. Stern**. “Association of the Meaningful Use Electronic Health Record Incentive Program with Health Information Technology Venture Capital Funding.” *JAMA Network Open* (March 2020).

**Stern, Ariel D.** and W. Nicholson Price. “Regulatory oversight, causal inference, and safe and effective health care machine learning.” *Biostatistics*, <https://doi.org/10.1093/biostatistics/kxz044> (November 2019).

Monteleone, Peter P., Subhash Banerjee, **Ariel D. Stern**, et al. “The Market Reacts Quickly: Changes in Paclitaxel Vascular Device Purchasing Within the Ascension Healthcare System.” *The Journal of Invasive Cardiology* (October 2019).

**Stern, Ariel D.** “Managing the use and dissemination of information about biomarkers: The importance of incentive structures.” *The Journal of Law, Medicine & Ethics*, 47(3) (September 2019) [396-397].

Angus, Derek C., Brian M. Alexander, **Ariel D. Stern**, et al. “Adaptive Platform Trials: Definition, Design, Conduct, and Reporting Considerations.” *Nature Reviews Drug Discovery* (August 2019).

Gordon, William J. and **Ariel D. Stern** “Challenges and Opportunities in Software-Driven Medical Devices.” *Nature: Biomedical Engineering*, 3(7) (July 2019) [493-497].

**Stern, Ariel D.**, Felicitas Pietrulla, Annika Herr, Aaron S. Kesselheim, and Ameet Sarpatwari. “The Impact of Price Regulation on the Availability of New Drugs in Germany.” *Health Affairs*, 38(7) (July 2019) [1182-1187].

**Stern, Ariel D.**, William J. Gordon, Adam B. Landman, and Daniel B. Kramer. “Cybersecurity Features of Digital Medical Devices: An Analysis of FDA Product Summaries.” *BMJ Open* doi: 10.1136/bmjopen-2018-025374 (June 2019).

Cutler, David, Jonathan S. Skinner, **Ariel D. Stern**, and David Wennberg. “Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending.” *American Economic Journal: Economic Policy*, 11(1) (February 2019) [192–221].

\* Finalist, National Institute for Health Care Management Foundation Annual Health Care Research Award (2020)

Weitzman, Rachel, **Ariel D. Stern**, and Daniel B. Kramer. “Food and Drug Administration Guidance Documents and New Medical Devices: The Case of Breast Prostheses.” *American Journal of Therapeutics*, 28(1) (January/February 2021) [Published online November 2018].

Scott Morton, Fiona M., **Ariel D. Stern**, and Scott Stern. “The Impact of the Entry of Biosimilars: Evidence from Europe.” *Review of Industrial Organization*, 53(1) (April 2018) [173-210].

**Stern, Ariel D.**, Brian M. Alexander, and Amitabh Chandra. “Innovation Incentives and Biomarkers.” *Clinical Pharmacology and Therapeutics*, 103(1) (January 2018) [34-36].

Kaplan, Aaron V. and **Ariel D. Stern**. “The Central and Unacknowledged Role of the U.S. Food and Drug Administration in the Design and Execution of Medical Device Pivotal Trials.” *JAMA Cardiology*, 3(1) (January 2018) [5-6].

**Stern, Ariel D.**, Brian M. Alexander, and Amitabh Chandra. “How Economics Can Shape Precision Medicines.” *Science*, 355 (6330) (March 2017) [1131-1133].

**Stern, Ariel D.**, Daniel B. Kramer, Melissa Ouellet, and Aaron S. Kesselheim. “Review Times and Adverse Events for Cardiovascular Devices.” *Nature: Biomedical Engineering*, 1(13) (January 2017) [1-3].

**Stern, Ariel D.** “Innovation Under Regulatory Uncertainty: Evidence from Medical Technology.” *Journal of Public Economics*, 145 (January 2017) [181-200].

Lee, Malinda S., Brady T. Evans, **Ariel D. Stern**, and Mark D. Hornstein. “Economic Implications of the Society for Assisted Reproductive Technology Embryo Transfer Guidelines: Healthcare Dollars Saved by Reducing Iatrogenic Triplets.” *Fertility and Sterility*, 106(1) (July 2016) [189-195].

Hawkins, Summer S., **Ariel D. Stern**, Christopher F. Baum, and Matthew W. Gillman. “Evaluating the Impact of the Baby-Friendly Hospital Initiative on Breast-Feeding Rates: a Multi-State Analysis.” *Public Health Nutrition*, 18(2) (February 2015) [189-197].

Hyry, Hanna I., **Ariel D. Stern**, Jonathan C.P. Roos, and Timothy M. Cox. “Limits on Use of Health Economic Assessments for Rare Diseases.” *Quarterly Journal of Medicine*, 107(3) (March 2014) [241-245].

Hawkins, Summer S., **Ariel D. Stern**, Christopher F. Baum, and Matthew W. Gillman. “Compliance with the Baby-Friendly Hospital Initiative and Impact on Breastfeeding Rates.” *Archives of Disease in Childhood-Fetal and Neonatal Edition*, 99(2) (November 2013) [138-143].

Hawkins, Summer S., **Ariel D. Stern**, and Matthew W. Gillman. “Do State Breastfeeding Laws in the USA Promote Breast Feeding?” *Journal of Epidemiology and Community Health*, 67(3) (October 2012) [250-256].

Feyrer, James, Bruce Sacerdote, and **Ariel D. Stern**. “Will the stork return to Europe and Japan? Understanding Fertility within Developed Nations.” *The Journal of Economic Perspectives*, 22(3) (June 2008) [3-22].

Feyrer, James, Bruce Sacerdote, and **Ariel D. Stern**. “Did the Rust Belt Become Shiny? A Study of Cities and Counties that Lost Steel and Auto Jobs in the 1980s.” *Brookings-Wharton Papers on Urban Affairs*, 8 (2007) [41-102].

## Books and Book Chapters:

**Stern, Ariel D.** “The Regulation of Medical AI: Policy Approaches, Data, and Innovation Incentives.” 2024. *The Economics of Artificial Intelligence: Health Care Challenges*, Agrawal et al., editors. University of Chicago Press (available as NBER Working Paper 30639).

Everhart, Alexander O. and **Ariel D. Stern**. “Post-Market Surveillance of Software Medical Devices: Evidence from Regulatory Data.” *Digital Health Care Outside of Traditional Clinical Settings: Ethical, Legal and Regulatory Challenges and Opportunities*, I. G. Cohen, D. Kramer, J. Adler-Milstein, C. Shachar, editors. Cambridge University Press (forthcoming May 2024)

Brönneke, Jan B., Jörg F. Debatin, Julia Hagen, Philipp Kircher, Henrik Matthies, and **Ariel D. Stern**. 2021. *The DiGA VADEMECUM: How to Launch Digital Health Apps in the German Healthcare System*. MWV Medizinisch Wissenschaftliche Verlagsgesellschaft.

Bagley, Nicholas, Benjamin Berger, Amitabh Chandra, Craig Garthwaite, and **Ariel D. Stern**. 2018. “The Orphan Drug Act at 35: Observations and an Outlook for the Twenty-First Century.” *Innovation Policy and the Economy, volume 19*. Scott Stern and Joshua Lerner, editors. University of Chicago Press.

Chandra, Amitabh, Craig Garthwaite, and **Ariel D. Stern**. 2017. “Characterizing the Drug Development Pipeline for Precision Medicines.” *Economic Dimensions of Personalized and Precision Medicine*, Ernst Berndt, Dana Goldman, and John Rowe, editors. University of Chicago Press.

## Published Course Materials:

**Stern, Ariel D.** and Alpana Thapar. “Proximie: Using XR Technology to Create Borderless Operating Rooms.” Harvard Business School Case 622-082 (March 2022) [25p].

**Stern, Ariel D.** and Alpana Thapar. “Proximie: Using XR Technology to Create Borderless Operating Rooms (TN).” Harvard Business School Teaching Note 623-034 (November 2022) [13p].

**Stern, Ariel D.**, Robert Huckman, and Sarah Mehta. “Somatus: Value-Based Kidney Care (A).” Harvard Business School Case 622-009 (December 2021) [23p].

**Stern, Ariel D.**, Robert Huckman, and Sarah Mehta. “Somatus: Value-Based Kidney Care (B).” Harvard Business School Case 622-045 (January 2022) [23p].

**Stern, Ariel D.** and Danielle Golan. “Hello Heart: The Next Generation of Chronic Disease Management Apps.” Harvard Business School Case 622-061 (January 2022) [20p].

**Stern, Ariel D.** and Kumba Sennaar. “Hello Heart: The Next Generation of Chronic Disease Management Apps (TN).” Harvard Business School Teaching Note 624-014 (July 2023) [12p].

**Stern, Ariel D.** and Daniela Beyersdorfer. “1928 Diagnostics: Fighting Antibiotics Resistance.” Harvard Business School Case 621-025 (October 2020) [25p].



**Stern, Ariel D.** and Sarah Mehta. “Maven Clinic: Women’s Health in the Digital Age.” Harvard Business School Case 620-035 (March 2020) [21p].

**Stern, Ariel D.** and Sarah Mehta. “Ariadne Labs: Building Impactful Partnerships.” Harvard Business School Case 619-017 (June 2019) [25p].

**Stern, Ariel D.** and Sarah Mehta. “Ariadne Labs: Building Impactful Partnerships (TN).” Harvard Business School Teaching Note 620-002 (February 2020) [16p].

Huckman, Robert S. and **Ariel D. Stern.** “The Brigham and Women’s Hospital Innovation Hub: Driving Internal Innovation.” Harvard Business School Case 619-026 (April 2019) [20p].

**Ariel D. Stern,** Robert S. Huckman and Sarah Mehta. “The Brigham and Women’s Hospital Innovation Hub: Driving Internal Innovation.” (TN) Harvard Business School Teaching Note 623-010 (February 2023) [14p].

**Stern, Ariel D.** and Sarah Mehta. “Adaptive Platform Trials: The Clinical Trial of the Future?” Harvard Business School Case 618-025 (September 2017, revised January 2018) [26p].

**Stern, Ariel D.** and Sarah Mehta. “Adaptive Platform Trials: The Clinical Trial of the Future? (B).” Harvard Business School Case 620-001 (September 2019) [6p].

**Stern, Ariel D.** and Sarah Mehta. “Adaptive Platform Trials: The Clinical Trial of the Future? (C).” Harvard Business School Case 622-012 (July 2021) [6p].

**Stern, Ariel D.** and Sarah Mehta. “Adaptive Platform Trials: The Clinical Trial of the Future? (TN).” Harvard Business School Teaching Note 618-048. (March 2018) [14p].

Chandra, Amitabh and **Ariel D. Stern** “Technical Note on Bayesian Statistics and Frequentist Power Calculations” Harvard Business School Case 620-032 (December 2019) [15p].

Huckman, Robert S., **Ariel D. Stern,** and Matthew G. Preble. “Twine Health.” Harvard Business School Case 615-068 (March 2015) [14p].

Huckman, Robert S. and **Ariel D. Stern.** “Twine Health (TN).” Harvard Business School Teaching Note. 618-055. (March 2018) [19p].

## **WORKING PAPERS**

Ball, George P., Jeffrey T. Macher, and **Ariel D. Stern.** “Responding Strategically to Competitors’ Failures: Evidence from Medical Device Recalls and New Product Submissions.” Harvard Business School Working Paper No. 19-028 (Revisions requested).

Garthwaite, Craig, Rebecca M. Sachs, and **Ariel D. Stern.** “Which Markets (Don’t) Drive Pharmaceutical Innovation? Evidence From U.S. Medicaid Expansions.” NBER Working Paper 28755 (Revisions requested).

Miller, Kathleen, Aaron Kearsley, **Ariel D. Stern**, and Jennifer Kao. “The FDA Breakthrough Therapy Designation Reduced Late-stage Drug Development Times” (Revisions Requested)

Foroughi, Cirrus, Alexander Everhart, and **Ariel D. Stern**. “Who drives Digital Innovation?: Evidence from the U.S. Medical Device Industry.”

## **OTHER PUBLICATIONS AND MULTIMEDIA**

**Stern, Ariel D.** *The Cold Call Podcast with Brian Kenney* “Can Remote Surgeries Digitally Transform Operating Rooms?” September 2023.

Grimpe, Christoph, Timo Minssen, W. Nicholson Price II, and **Ariel D. Stern**, “Ein Booster für die Pharmabranche” *Harvard Business Manager* (Germany) Print Edition, July 2022.

Grimpe, Christoph, Timo Minssen, W. Nicholson Price II, and **Ariel D. Stern**, “Will mRNA Technology Companies Spawn Innovation Ecosystems?” *Harvard Business Review* Digital Article, April 2022.

Goldwasser, Yoni, William J. Gordon, Jan B. Brönneke, and **Ariel D. Stern**, “Germany is on the brink of a digital health care transformation: What can it learn from the United States?” *Health Affairs Blog*, October 2021.

**Stern, Ariel D.** and Jacqueline L. Chen, “A 2021 Snapshot of Biosimilars in the United States” *MedPage Today Expert Q&A*, July 2021.

**Stern, Ariel D.**, *A Health Podyssey (Health Affairs Podcast)* “How Biosimilars Are Affecting the Drug Markets” June 2021.

**Stern, Ariel D.**, Henrik Matthies, Julia Hagen, Jan B. Brönneke, and Jörg Debatin. “Want to See the Future of Digital Health Tools? Look to Germany.” *Harvard Business Review* Digital Article, December 2020.

Sanders, Samantha F., **Ariel D. Stern** and William J. Gordon. “How to Make Remote Monitoring Tech Part of Everyday Health Care.” *Harvard Business Review* Digital Article, July 2020.

**Stern, Ariel D.** and Caroline Marra. “The growing role of connected tech in medical research.” *Harvard Business School Digital Initiative*, December 2019.

Sanders, Samantha F., Mats Terwiesch, William J. Gordon, and **Ariel D. Stern**. “How artificial intelligence is changing health care delivery.” *NEJM Catalyst*, October 2019.

Coravos, Andrea, Irene Chen, Ankit Gordhandas, and **Ariel D. Stern**. “We should treat algorithms like prescription drugs.” *Quartz*, February 2019.

Bagley, Nicholas, Amitabh Chandra, Craig Garthwaite, and **Ariel D. Stern**. “It’s time to reform the Orphan Drug Act.” *NEJM Catalyst*, December 2018.

Huckman, Robert S. and **Ariel D. Stern**. “Why apps for managing chronic disease haven’t been widely used, and how to fix it.” *Harvard Business Review* Digital Article, April 2018.

**Stern, Ariel D.** *The Cold Call Podcast with Brian Kenney* “Could a new business model make clinical drug trials more accessible to patients?” March 2018.

## **PRESENTATIONS**

“The Regulation of Medical AI: Policy Approaches, Data, and Innovation Incentives”

German Society of Health Economists (DGGÖ) (January 2024)

University of Bonn (December 2023)

NBER Economics of Artificial Intelligence Meeting (September 2022)

“The Digital Revolution in Regulated Medical Products: Clinical Trials, Digital Therapeutics, and Regulated AI Devices”

Stanford University, Clinical Excellence Research Center (December 2023)

Harvard-MIT Center for Regulatory Science (December 2023)

Else Kröner Fresenius Center for Digital Health / TU Dresden (November 2023)

“The Digital Transformation of Clinical Trials”

Academy of Management (August 2023)

“Regulatory Incentives for Pharmaceutical Innovation: the FDA’s Breakthrough Therapy Designation”

University of Illinois Urbana-Champaign, Geis College of Business (March 2024)

University of Potsdam, Economics (January 2024)

Hamburg Center for Health Economics (December 2023)

NBER Meeting on the Economic Analysis of Regulation (February 2023)

BU Law School (February 2023)

Toulouse School of Economics Health Center Workshop (June 2022)

University of San Francisco Economics (March 2021)

NBER Productivity Seminar (December 2019)

Spreestadt-Forum on Health Care in Europe, Technical University of Berlin (January 2019)

ASSA Annual Meeting / Health Economics Research Organization (January 2018)

Harvard-MIT Center for Regulatory Science Annual Symposium (March 2017)

“The Digital Revolution in Health Care”

German Center for Research and Innovation New York, American Council on Germany, American

Friends of the Alexander von Humboldt Foundation & Hasso Plattner Institute (February 2024)

Schwartz Reisman Institute, University of Toronto (March 2023)

Digital Health Summer School, Hasso Plattner Institute (June 2022)

Institute for Medical Law, Sweden (March 2022)

International Health Tech Conference (December 2021)

Emerging Hospital Technologies and Innovation Conference (June 2021)

Stockholm School of Economics, House of Innovation Conference (October 2020)

Harvard-MIT Center for Regulatory Science (September 2020)

University of Minnesota, Humphrey School of Public Affairs (October 2019)

National Association of Business Economists (September 2019)

“Biomarkers, Analytics, and the Data-Driven Future of Precision Medicine”

University of Luxembourg (December 2022)

Harvard Data Science Initiative (October 2018)

Harvard Business School Digital Initiative, Future Assembly Conference (April 2018)

“Who Drives Digital Innovation?: Evidence from the U.S. Medical Device Industry”

Virtual Digital Economy (VIDE) Seminar (October 2022)

NBER Summer Institute, IT and Digitization (July 2019)

NYU Stern (November 2018)

European School of Management and Technology (November 2018)

Munich Summer Institute (June 2018)

Industry Studies Association Conference (May 2018)

MIT Sloan School of Management (April 2018)

Tilburg University, Econometrics and Operations Research Department (March 2018)

NBER Digitization Meeting (March 2018)

Northeastern University, Economics Department (February 2018)

Harvard Business School, Science-Based Business Initiative Seminar (December 2017)

NYU Stern, Economics of Strategy Workshop (June 2017)

Max Planck Institute / Ludwig Maximilian University of Munich (June 2017)

UCSB Economics (April 2017)

UCSD Rady School of Management (April 2017)

Bocconi School of Management (March 2017)

Heinz College, Carnegie Mellon University (March 2017)

Weatherhead School of Management, Case Western Reserve University (February 2017)

NBER Productivity Seminar (February 2017)

Asia Innovation and Entrepreneurship Association-NBER Conference (August 2016)

“Responding Strategically to Competitors’ Failures: Evidence from Medical Device Recalls and New Product Submissions”

Charles River Associates (April 2022)

Asia Innovation and Entrepreneurship Association Seminar (March 2022)

UCLA Anderson Strategy Seminar (February 2022)

European School of Management and Technology (December 2020)

Max Planck Institute for Innovation and Competition (November 2020)

University of Minnesota, Carlson School of Management (November 2020)

University Duisburg-Essen, Essen Health Economics Seminar Series (November 2020)

Leibnitz University Hannover, Institute of Health Economics (November 2020)

Technical University of Munich School of Management (July 2020)

Boston University, Questrom (February 2020)

University of Chicago, Booth (November 2019)

NBER Summer Institute, Innovation (July 2019)

NBER Program on Productivity, Innovation, & Entrepreneurship Meeting (March 2019)

Wharton Empirical Operations Workshop (September 2018)

“How Artificial Intelligence is Changing Health Care Delivery”

Symposium on AI in Digital Health, Max Delbrück Center for Molecular Medicine (January 2022)

“How Economics can Shape Precision Medicines”

Boston Combined Residency Program in Pediatrics (February 2021)

Brigham and Women's Hospital, Grand Rounds, Rheumatology Department (February 2020)  
Broad Institute of MIT and Harvard (March 2019)  
Massachusetts General Hospital, Grand Rounds, Urology Department (February 2019)

“The Growth of Software in Medical Technology: Implications for Firms and Regulators”  
HBS-OECD Platforms and Emerging Business Models Conference (November 2019)  
Medtronic Health Economics (October 2019)  
University of Erlangen-Nuremberg, Machine Learning and Data Analytics Lab (June 2019)  
Boston University, School of Public Health (May 2018)  
Beth Israel Deaconess Medical Center, Center for Outcomes Research in Cardiology (April 2018)  
Harvard Medical School, Regulatory Sciences Advisory Group (February 2018)

“The Impact of Price Regulation on the Availability of New Drugs in Germany”  
Salerno School of Medicine (October 2019)

“Pioneer (Dis-)Advantages in Markets for Technology”  
Academy of Management (August 2019)  
Technical University of Munich (October 2018)

“The Adoption and Diffusion of Medical Technology: Evidence from Cardiac Procedures”  
Düsseldorf Institute for Competition Economics (June 2019)  
University of Milan (March 2019)  
University of Venice (March 2019)  
INFORMS Annual Meeting (November 2018)  
ASSA Annual Meeting / Health Economics Research Organization (January 2018)  
International Health Economics Association Congress (July 2017)  
Chicago Booth Junior Health Economics Summit (February 2017)

“The Impact of the Entry of Biosimilars: Evidence from Europe”  
U.C. Irvine Conference on Biosimilar Innovation (February 2019)  
Chicago Booth Junior Health Economics Summit (March 2017)  
BU/Harvard/MIT Health Economics Seminar (February 2017)  
Harvard Medical School Regulatory Sciences Advisory Group (January 2017)  
MIT Center for Biomedical Innovation Summit (December 2016)  
Duke Strategy Conference (October 2016)  
American Society of Health Economics Conference (June 2016)  
Workshop on New Empirical Developments in Health and Labor Markets (June 2016)  
Bates-White Life Sciences Symposium (May 2016)  
European Biosimilars Group Conference (April 2016)  
U.K. Institute for Fiscal Studies (April 2016)  
University of Virginia Batten School of Leadership and Public Policy (March 2016)  
NBER Productivity Seminar (March 2016)  
Tulane Innovation and Behavior in Health Markets Conference (February 2016)  
International Health Economics Association Congress (July 2015)

“ACA-Era Medicaid Expansions and Pharmaceutical Innovation”  
Bates-White Life Sciences Symposium (May 2018)

“Characterizing the Drug Development Pipeline for Precision Medicines”

NBER Economic Dimensions of Personalized & Precision Medicine Conference (September 2017)  
Asia Innovation and Entrepreneurship Association-NBER Conference (August 2017)  
International Institute of Public Finance Annual Congress (August 2017)  
Bates-White Life Sciences Symposium (May 2017)

“Innovation Under Regulatory Uncertainty: Evidence from Medical Technology”

Harvard Kennedy School Health Care Leadership Council Roundtable on BioPharma Regulation and Innovation (April 2016)  
Georgia Tech Scheller College of Business (January 2016)  
Canadian Conference on the Economics of Entrepreneurship and Innovation (June 2015)  
Radcliffe Workshop on Innovation, Regulation, and Diffusion of Medical Technologies (May 2015)  
NBER Program on Productivity, Innovation, & Entrepreneurship Meeting (March 2015)  
NBER Summer Institute, Health Care (July 2014)  
CRISP Health Econometrics Workshop (July 2014)  
American Society of Health Economists Conference (June 2014)  
Ludwig Maximilian University Munich (April 2014)  
University of Toronto Rotman School of Management (February 2014)  
University of Chicago Harris School of Public Policy (February 2014)  
UCSD School of Global Policy and Strategy (February 2014)  
Northwestern Kellogg School of Management (January 2014)  
Stanford University, Department of Health Research and Policy (January 2014)  
RAND Corporation (January 2014)  
Yale School of Public Health, Health Policy and Management (January 2014)  
Harvard Business School (January 2014)  
MIT Sloan School of Management (December 2013)  
NBER Productivity Seminar (November 2013)

“Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending”

Tufts Medical Center, Center for Evaluation of Value and Risk in Health (March 2016)  
Ariadne Labs, Harvard T.H. Chan School of Public Health (January 2016)  
ASSA Annual Meeting / Econometric Society (January 2016)  
International Conference on Organizational Behavior in Health Care (April 2014)  
Federal Reserve Bank of Boston (April 2014)  
NBER Health Care Meeting (March 2013)

**PROFESSIONAL ACTIVITIES**

Memberships:

Academy of Management  
American Economic Association  
American Society of Health Economists  
German Society for Health Economics (DGGÖ)  
INFORMS  
International Health Economics Association  
Robert Bosch Foundation Fellowship Alumni Association

Ad hoc Refereeing:

American Economic Journal: Applied Economics

American Economic Journal: Economic Policy  
American Journal of Public Health  
BMJ Open  
Health Affairs  
Drug Discovery Today  
Health Economics  
Journal of the American Medical Association (JAMA)  
JAMA Internal Medicine  
Journal of the European Economic Association  
Journal of Health Economics  
Journal of Health Politics, Policy, and Law  
Journal of Human Resources  
Journal of Medical Internet Research (JMIR)  
Journal of Political Economy  
Journal of Public Economics  
The Lancet Digital Health  
Management Science  
npj Digital Medicine  
Production and Operations Management  
RAND Journal of Economics  
Research Policy  
Review of Economics and Statistics  
Review of Industrial Organization  
Quarterly Journal of Economics

Editorial:

Guest Editor, *npj Digital Medicine*: Collection on “Regulated Digital Medical Products” (2023 – )

Conferences, Workshops, and Committees:

Co-organizer: DIW-HPI-ZEW Workshop on Applied Economics in Digital Health (2024 – present)  
Organizing Committee: Asia Innovation & Entrepreneurship Association-NBER Conference (2019 – present)  
Scientific Committee: American-European Health Economics Study Group (2016 – present)  
Invited discussion: NBER Summer Institute, Innovation (July 2023)  
Expert advisory group member: OECD, AI in Health (July 2023 – present)  
Working group member: Digital Medicine Society, Digital Health Regulatory Pathways Project (2022 – 2023)  
Invited discussion: NBER Summer Institute, Innovation (July 2022)  
Session Organizer: American Economic Association Meetings “Evaluating and Incentivizing Ideas” (January 2022)  
Invited discussion and session chair: American Society of Health Economists Annual Meeting (June 2021)  
Panel Chair/Organizer: Global Conference on Regulatory Science: “International Approaches to Regulating Digital Health Applications” (October 2021)  
Working Group Chair/Organizer: Global Conference on Regulatory Science: “Digital health applications, real-world evidence, and advancing digital medicine” (October 2021)  
Harvard Ph.D. Program in Health Policy core seminar working group (2021)  
Academy of Management: Technology & Innovation Management Division Best Dissertation Award Committee (2021)

MSOM Healthcare Special Interest Group Workshop: Review Committee (2021)  
Panel Chair/Organizer: Global Conference on Regulatory Science: “Advances in Digital Medicine and Patient Care” (October 2020)  
Invited discussion: Asia Innovation & Entrepreneurship Association-NBER Conference (August 2020)  
Invited discussion: NBER Economics of Artificial Intelligence Conference (September 2019)  
Symposium Co-Chair: Academy of Management Meetings (August 2019)  
Session Organizer: INFORMS Healthcare Conference (July 2019)  
Co-founder and Chair: Harvard Digital Medicine Symposium (May 2019)  
Invited discussion: HBS Digital Initiative Discussion Symposium (May 2019)  
Organizer: Harvard-MIT Center for Regulatory Science Doctoral Symposium (February 2019)  
Invited discussion: ASSA / American Economic Association Annual Meeting (January 2019)  
Session Chair: Harvard Program in Therapeutic Science Annual Symposium (December 2018)  
Organizing Committee: American-European Health Economics Study Group (June 2018)  
Session Chair & Organizer: American Society of Health Economists Conference (June 2018)  
Invited discussion: Roundtable for Engineering Entrepreneurship Research (November 2017)  
Invited discussion: American Society of Health Economists Conference (June 2016)  
Invited discussion: Asia Innovation & Entrepreneurship Association-NBER Conference (August 2016)  
Invited discussion: NBER Summer Institute, Innovation (July 2015)  
Invited discussion: ASSA Annual Meeting (January 2015)  
Invited discussion: American Political Science Association Annual Meeting (September 2014)  
Invited discussion: International Conference in Organizational Behavior in Health Care (April 2014)

## **SELECTED MEDIA COVERAGE**

“The Regulation of Medical AI: Policy Approaches, Data, and Innovation Incentives.”  
“Your medical devices are getting smarter. Can the FDA keep them safe?” *The Wall Street Journal* (October 2023)

“Association Between Regulatory Submission Characteristics and Recalls of Medical Devices Receiving 510(k) Clearance.”  
“FDA proposes changes to key approval pathway for medical devices, five years after promising” *STAT News* (September 2023)  
“An FDA pathway to clear medical devices is putting patients at risk, research suggests” *STAT News* (January 2023)  
“Two JAMA Studies Point to Needed Reforms in FDA’s 510(K) Process” *FDA News* (January 2023)  
“Two studies note potential flaws in FDA device approvals” *Becker’s Hospital Review* (January 2023)  
“Legal Loophole Lets Faulty Devices Maintain Their Legacy” *Medpage Today* (January 2023)

“Regulatory Incentives for Pharmaceutical Innovation: the FDA’s Breakthrough Therapy Designation.”  
“FDA’s Breakthrough Program: Faster Drug OKs Without Sacrificing Safety” *UCLA Anderson Review* (January 2023)  
*NBER Digest* (January 2023)

“Lessons from the Impact of Price Regulation on the Pricing of Anticancer Drugs in Germany”



“How can cancer drug prices better match their benefits? Germany offers a cost-saving model”  
*STAT News* (July 2020)  
“Aligning Cost with Benefit for Cancer Drugs: Success in Germany” *Medscape* (August 2020)

“Quantifying the Use of Connected Digital Products in Clinical Research”

“Quantifying the use of remote monitoring tools” *Study of the week Health Tech Newsletter*,  
*STAT News* (April 2020)  
“More clinical trials are incorporating connected digital products with each passing year”  
*MobiHealthNews* (April 2020)

“The Impact of Price Regulation on the Availability of New Drugs in Germany”

“What the U.S. can learn from Germany on drug prices” *Axios* (July 2019)  
“Can Germany help the U.S. lower prescription drug prices?” *WTOP Radio* (July 2019)

“Innovation Under Regulatory Uncertainty: Evidence from Medical Technology”

“The Medical Field is Ripe for Automation,” *Business Insider* (April 2017)  
“Device Recalls Surge in Recent Years, Prompting Question: Why?” *General Surgery News* (April 2016)  
“Sure, They’re Cool, but will Smart Wearables Ever Live Up to Their Potential?” *Managed Care Magazine* (November 2015)  
“Counting the Costs and Opportunities of Medical Tech Regulation,” *Smith Business Insight* (September 2015)  
“Two Eminent Reasons to Speed Device Approvals,” *Medical Device and Diagnostics Industry* (September 2015)  
“How FDA Hinders Medical Devices Innovation,” *Medical Device and Diagnostics Industry* (August 2015)  
“What’s the Real Reason for FDA Device Delays?” *Medical Device and Diagnostics Industry* (August 2015)  
“Device Industry Suffers from First-Mover Disadvantage due to FDA Regs,” *Fierce Medical Devices* (August 2015)  
“Two Excellent Discussions of Biopharma/Medtech Innovation, Pricing, and Strategy,” *Discoveries in Health Policy* (August 2015)  
“Too Slow or Too Sloppy? Medical Devices Want Faster FDA Approval,” *The Washington Diplomat* (August 2015)

“The Impact of the Entry of Biosimilars: Evidence from Europe”

“New Class of Generics Could Save Consumers, Insurers Billions. FDA is Moving Carefully,” *NPR, Marketplace* (July 2016)  
“Drug Channels News Roundup, July 2016: Biosimilars, Drug Prices, Morris & Dickson,” *Drug Channels* (July 2016)

“Physician Beliefs and Patient Preferences: A New Look at Regional Variation in Health Care Spending”

“Cowboy Doctors Are Rustling Up Healthcare Costs,” *WGBH: Innovation Hub* (November 2015)  
“Cowboy Doctors and Health Costs,” *Harvard Magazine* (September 2015)  
“New Research Finds Cowboy Doctors May Contribute to High Healthcare Costs,” *WBUR, Radio Boston* (August 2014)  
“Regional Variation in Health Care: Physician Beliefs or Patient Preferences?” *National Bureau of Economic Research Bulletin on Aging and Health* (2014)  
“Are Hospitals Already Saving Money for Medicare?” *Bloomberg View* (August 2013)

“Will the Stork Return to Europe and Japan? Understanding Fertility Within Developed Nations”  
“How Feminism Could Save Japan from Demographic Doom,” *Vox* (October 2014)  
“Pro-Baby, but Stingy with Money to Support Them,” *The New York Times* (July 2013)  
“The Economics of Having Children,” *Handelsblatt* (Germany) (November 2008)

## **OTHER**

Advisory Board, Peterson Health Technology Institute; November 2023 –

Scientific Advisory Board, Max Planck Institute for Innovation and Competition (Munich); October 2023 –

Scientific Advisory Board, Center for Health Economics Research Hannover (CHERH); January 2023 –

External Advisory Group to the European Taskforce for Harmonised Evaluation of Digital Medical Devices in the EU; October 2022 –

Mentor, Creative Destruction Lab (Health Stream), Berlin; October 2022 –

Scientific Advisory Board, German Society for Digital Medicine (*Deutsche Gesellschaft für Digitale Medizin*); November 2021 –

Leadership Council, Institute for Global Health Sciences, University of California San Francisco; September 2019 –

Strategic Advisory Board, HumanFirst (formerly Elektra Labs); December 2018 –

Board of Visitors, Rockefeller Center for Public Policy and the Social Sciences, Dartmouth College; July 2017 – June 2023

Advisory Board, The Resolution Project; January 2014 – December 2016

## **ATHLETICS**

Member: Sport Club Charlottenburg e. V. (Figure Skating); Since 2023

Member: Wearers of the Green (Dartmouth Alumni Athletic Hall of Fame); Since 2006

U.S. Figure Skating Gold Medalist (highest designation); Since 2005

Two-time U.S. National Collegiate Figure Skating Team Champion (2004, 2005)