# **Matthew Grennan**

University of Pennsylvania, Wharton School 307 Colonial Penn Center 3641 Locust Walk, Philadelphia, PA 19104 +1.612.750.0761 (m) grennan@wharton.upenn.edu hcmg.wharton.upenn.edu/profile/grennan

Last updated: January 2020

#### **Positions**

University of Pennsylvania, Wharton School

Assistant Professor of Health Care Management July 2013 – present

National Bureau of Economic Research

Faculty Research Fellow (HC, IO) May 2015 – present

Leonard Davis Institute for Health Economics Research

Senior Fellow July 2013 - present

University of Toronto, Rotman School of Management

Assistant Professor of Strategic Management July 2010 – June 2013

#### **Education**

Ph.D., Strategy/Economics, *New York University, Stern School of Business*, September 2010 (Committee: John Asker, Adam Brandenburger, Allan Collard-Wexler, Michael Katz, Bernie Yeung)

M.S., Applied Economics, University of Minnesota, May 2005

B.S., Industrial Engineering, Iowa State University, May 2002

### **Research Areas**

empirical industrial organization, health care, innovation, competitive strategy

#### **Published and Forthcoming Papers**

- [1] "Price Discrimination and Bargaining: Empirical Evidence from Medical Devices" American Economic Review, Volume 103, Number 1, February 2013, pp. 145-177(33).
- [2] "Bargaining Ability and Competitive Advantage: Empirical Evidence from Medical Devices" Management Science, Volume 60, Number 12, December 2014, pp. 3011-3025.
- [3] "Regulating Innovation with Uncertain Quality: Information, Risk, and Access in Medical Devices" (with Bob Town)

American Economic Review, Volume 110, Number 1, January 2020, pp. 120-161.

- PURC Prize for Best Paper in Regulatory Economics (2018)
- Wharton PPI, Knowledge@Wharton, LSE Business Review, AEA Research Blog

[4] "Transparency and Prices: The Value of Information in Hospital-Supplier Bargaining" (with Ashley Swanson)

Journal of Political Economy, Forthcoming.

• NYTimes, LDI, Knowledge@Wharton

## **Working Papers**

[5] "Mergers and Marginal Costs: New Evidence on Hospital Buyer Power" (with Stuart Craig and Ashley Swanson)

R&R @ RAND Journal of Economics

NBER, Advisory Board, Modern Healthcare, Daily Caller, HealthLeaders, HealthcareDive

Page 1 of 5

- [6] "Firm Scope and Spillovers from New Product Innovation: Evidence from Medical Devices" (with Charu Gupta and Mara Lederman)
  Submitted.
- [7] "Physician-Industry Interactions: Persuasion and Welfare" (with Kyle Myers, Ashley Swanson, and Ronnie Chatterji) Under Revision.
  - Penn LDI, The Fix, MarketWatch
- [8] "Diagnosing Price Dispersion: Demand, Bargaining, and Search in Hospital-Supplier Contracting" (with Ashley Swanson)
  Under Revision.
- [9] "Bargaining in Healthcare Markets: Applications of Nash-in-Nash and Extensions", chapter requested for Palgrave/MacMillan book on bargaining applications (with Ashley Swanson) Under Review.

#### **Projects in Progress**

- [10] "Do We Need an FDA for That? Public vs. Private Incentives for Product Testing" (with Allan Collard-Wexler, Andrew Steck, and Bob Town)
- [11] "Public and Private Funding of R&D: Evidence at the Scientist Level" (with Maryaline Catillon and Kyle Myers)
- [12] "Vertical Integration and Control: Evidence from Medical Technology" (with Stuart Craig, Joseph Martinez, and Ashley Swanson)
- [13] "Physician Integration with Hospitals and the Cost of Healthcare" (with Zack Cooper, Fiona Scott Morton, and Ashley Swanson)
- [14] "Physician Relationships with Industry and the Pricing and Usage of Medical Technology" (with Alon Bergman and Ashley Swanson)

# **Teaching Experience**

Health Care Entrepreneurship (UG, Wharton 2013-) (mean rating: 4.4/5)

Excellence in Teaching 2016; Poets and Quants Top 50 Undergraduate Professor 2018

Management & Strategy in Medical Devices & Technology (MBA, Wharton 2016-) (mean rating: 3.9/5)

Health Care Data & Analytics (MBA, Wharton 2018) (mean rating: 3.6/5)

Health Care Marketing (MBA, Wharton 2013-15) (mean rating: 3.9/5)

Health Care Economics (MBA, Indian School of Business 2012-14) (mean rating: 6.5/7)

Entrepreneurship (UG, Toronto Rotman 2011-13) (mean rating: 6.6/7)

• Excellence in Teaching 2011-13

Models and Methods (PhD, Toronto Rotman 2012-13) (no ratings collected)

TA, NYU Stern 2008-10: Implementing Strategy (MBA), Managerial Economics (MBA), IO (PhD)

#### **Honors**

### **Professional:**

NSF Grant for "Empirical Analysis of Business-to-Business Bargaining: Evidence from Hospital Input Markets" (2016-19, with Ashley Swanson)

PURC Prize for Best Paper in Regulatory Economics (IIOC 2018) for "Regulating Innovation with Uncertain Quality: Information, Risk, and Access in Medical Devices" (with Bob Town)

Page 2 of 5

Last updated: January 2020

Poets & Quants Top 50 Undergraduate Business Professors (2018)

Excellence in Teaching Award: Wharton (2016); Toronto Rotman (2011, 2012, 2013)

Graduate: C.W. Nichols Foundation Fellowship (2009-10); Willensky Dissertation Fellowship (2009-10)

UG: Cardinal Key (Pres. 2001); Order of Omega (Pres. 2001); National Merit Scholar (1997-2001)

### **Grant Funding**

"Empirical Analysis of Business-to-Business Bargaining: Evidence from Hospital Input Markets" (Co-PI with Ashley Swanson)

National Science Foundation Grant SES-1559485 ~\$400,000 (2016-19)

"Physician Industry Ties and Medical Device Usage and Pricing" (Co-PI with Ashley Swanson)

- NIHCM Grant ~\$66,000 (2019)
- Leonard Davis Institute Pilot Grant \$20,000 (2019)

"Public and Private Funding: Evidence at the Scientist Level" (PI)

IFS-NBER Valuing Medical Research Grant \$15,000 (2018)

"Technology Adoption and Pass-Through to Medical Device Suppliers" (Co-PI with Ashley Swanson)

- Leonard Davis Institute Pilot Grant \$15,000 (2016)
- Wharton Dean's Research Fund \$8,000 (2017)

"Do We Need an FDA for That? Public vs. Private Incentives for Product Testing" (PI)

Mack Institute for Innovation \$7,000 (2016)

"Physician-Industry Ties: Impacts on Innovation and Treatment Patterns" (PI)

• Wharton Dean's Research Fund \$10,000 (2015)

"Transparency and Prices: the Value of Information in Hospital-Supplier Bargaining" (Co-PI with Ashley Swanson)

• Wharton Dean's Research Fund \$10,000 (2014)

"Regulating Innovation with Uncertain Quality: Information, Risk, and Access in Medical Devices" (PI)

- Mack Center for Innovation \$7,000 (2014)
- Wharton Dean's Research Fund \$10,000 (2013)

"The Multiproduct Advantage: Evidence from Regulatory Delay in Medical Devices" (PI)

Mack Center for Innovation \$8,000 (2013)

#### **Professional Activities**

## **Invited Seminar and Conference Presentations:**

(c = conference invitation, presented by coauthor; d = conference discussant)

**2020 (including scheduled):** ASSA Annual Meetings (d), Georgetown McDonough, Stanford GSB Marketing, Medtronic Research, Western Economics Association Meetings;

**2019:** Federal Trade Commission, Utah Eccles, Utah Winter Business Economics Conference, London School of Economics, Analysis Group, IIOC, Wharton Technology & Innovation Conference (c), Strategy Science Conference (c), NYC Health Economics Day, Organizational Theory in Healthcare Conference, Rochester Simon, QME Conference;

**2018:** ASSA Annual Meetings, Yale IO, Toulouse, IIOC, Bates White Life Sciences Conference (c), IFS Vertical Markets Conference, Kellogg Conference on Healthcare Markets (c), Columbia Bargaining Conference (c), NBER Summer IO (c), NYU IO Day (d), AHEC, FTC Micro Conference, Wharton Corporate Strategy and Innovation Conference (c);

Last updated: January 2020

**2017:** Bates White Life Sciences Conference (c), Universidad de Chile, Stanford IO, McGill Economics, AHEC (c);

**2016:** ASSA Annual Meetings (c), Tulane Health Care Conference, UCLA Anderson, Strategy Research Forum (d), Bates White Life Sciences Conference, ASHEcon (d), US Department of Justice, Maryland Economics, Wash U Olin, UNC Kenan-Flagler;

**2015:** ASSA Annual Meetings, Dartmouth Winter IO Conference, Johns Hopkins Economics, Queens, Cornell Economics, NBER Winter Health Care (c), Penn Medicine, Bates White, Queens Innovation Conference, US Food & Drug Administration, HEC Montreal Summer IO Conference (d), NBER Summer IO, Harvard Strategy, Georgia Tech Strategy;

**2014:** Houston/Rice Economics, Minnesota Carlson & Economics, NUS Strategy, Yale Economics, Federal Trade Commission, Kellogg Conference on Healthcare Markets, iHEA, HEC Montreal Summer IO Conference, NBER Summer IO, NBER Summer Health Care, Bureau of Economic Analysis, Triangle Health Economics Workshop, Penn State Economics, Chicago Economics, UC Berkeley Economics, Indian School of Business;

**2013:** Utah WBEC (d), HEC Health Care IO Conference (d), Strategy Research Forum, NYU Stern Economics of Strategy Conference, CELS (d), UCLA Anderson & Economics;

**2012:** Strategy Research Forum (d), Queens Innovation Conference (d), FTC Micro Conference (d);

**2011:** IIOC, CRES Foundations of Strategy Conference (d), Atlanta Competitive Advantage Conference, Northwestern Kellogg, Rochester Simon, FTC Micro Conference, UPenn Wharton Management;

**2010:** Yale SOM Economics, Analysis Group Boston, Georgia Terry Economics, Toronto Rotman Strategy, Columbia Economics, LSE Economics, Arizona Eller Economics, CRES Foundations of Strategy Conference, Cowles Structural Micro Conference, Harvard Strategy Conference (d), HEC Montreal;

**2009:** BPS Doctoral Consortium, Consortium for Cooperation and Competition

Peer Reviewer: American Economic Review, AEJ: Applied, AEJ: Micro, AEJ: Policy, American Journal of Healthcare Economics, Austrian Science Fund, Econometrica, Economic Journal, Economics Letters, Health Care: The Journal of Delivery Science and Innovation, International Economic Review, International Journal of Health Care Finance and Economics, International Journal of Industrial Organization, Journal of Health Economics, Journal of Industrial Economics, Journal of Political Economy, Journal of Public Economics, Management Science, National Science Foundation, RAND Journal of Economics, Review of Economic Studies, Review of Economics and Statistics, Strategic Management Journal, Strategy Science

**Professional Affiliations:** American Economic Association, Econometric Society, NBER, American Society of Health Economists, International Health Economics Association, Academy of Management (BPS and TIM), Strategy Research Forum

## **Professional Service:**

ASHEcon Program Chair for Competition in Health Care and Health Insurance Markets 2020; International Industrial Organization Conference (IIOC) Program Committee 2019, 2020; FTC Panel on "Estimating Markups (in High Fixed Cost Industries)" 2018; EDEN Doctoral Seminar on Competitive Strategy 2014,16

### **University Service:**

Wharton IT Committee 2019-20;

Wharton MBA Executive Committee 2016-18;

Wharton HCMG Recruitment 2015-17, 2020;

Wharton HCMG PhD Admissions 2013-;

Wharton HCMG Preliminary Exam Writer 2013-18;

Toronto Rotman Recruiting Committee 2011-12;

Page 4 of 5

Last updated: January 2020

Toronto Rotman Strategy Seminar Coordinator 2010-11;

Panel Speaker: Mack Institute 2016,17 Panel Facilitator: M&T Summit 2018

#### **Doctoral Student Advising:**

Joseph Martinez, Wharton 2021 expected (chair) Charu Gupta, Wharton 2021 expected (chair)

Kyle Myers, Wharton 2017 (co-chair) – Asst. Professor, HBS (TOM), following NBER Innovation Post-Doc Octavio Martinez, Toronto 2015 (committee member) – Asst. Professor, INCAE

#### **Pre-Docs:**

Gi Heung Kim, Wharton 2019 - PhD program at Wharton, BEPP

**MBA Student Advising:** Ani Vemprala, Penn 2014 (HIX); Hee-Won Kang, Penn 2014 (mHealth); Jinyong Lee, Penn 2017 (molecular diagnostics); Animesh Agarwal, Penn 2017 (medtech investing); Cyrus Perovian 2019 (prior authorization automation)

**Undergraduate Student Advising:** Aaron Goldstein and William Duckworth, Penn 2016 (*FeverSmart*, President's Innovation Prize 2016); Shriya Mantry, Penn 2017 (senior project); Ikshita Singh, Penn 2017 (senior project); Shawn Srolovitz, Penn 2018 (senior project); Grace Nie, Penn 2020 (senior thesis)

### Personal

Born 1979. Dixon, IL, United States

Married to <u>Jillian (Popadak) Grennan</u>. Daughter Jorie (2015); son Grant (2017); son Franklin (2019) Hobbies: basketball, cooking (and eating), football (a.k.a. soccer), reading, travel

Page 5 of 5 Last updated: January 2020