SHRUTHI VENKATESH

CONTACT INFORMATION

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EDUCATION

Carnegie Mellon University, Heinz College *September 2015-*
Ph.D Public Policy and Management
(Concentration: Applied Microeconomics)

University of Chicago *June 2013*
A.B. Economics, A.B. Sociology (Honors)

RESEARCH INTERESTS

Health Economics, Applied Microeconomics, Applied Industrial Organization

WORKS IN PROGRESS

- "The Effect of Hospital-Physician Acquisition on Physician Referrals"
- "Tort Reform and Physician Entry: the Case of Texas Ob-Gyns"

DOCTORAL COURSEWORK

PhD Microeconomics I (90-908 Heinz)
Microeconomics I (47-800 Tepper)
Game Theory and Applications (47-817 Tepper)
Economics of Contracts (47-818 Tepper)
Intro to Econometric Theory (90-906 Heinz)
Econometric Theory and Methods (90-907 Heinz)
Advanced Econometrics II (PT931 UPitt)
Machine Learning (10-601 Machine Learning Dept)
Computational Methods in Economics (47-805 Tepper)
Empirical Methods (PT709 UPitt)
Empirical Models in Marketing (47-756 Tepper)
Advanced Economic Analysis: Structural Models (47-952 Tepper)
Behavioral Economics (88-702 SDS)
Multivariate Data Analysis (47-755 Tepper)

INVITED PRESENTATIONS AND TALKS

International Health Economics Association (IHEA) Conference — Boston, MA — *June 2017*
Tort Reform and Physician Entry

HIGHLIGHTED INFO

Teaching Assistant

Econometrics II (Ph.D) (taught by Akshaya Jha) — *Spring 2018*
Heinz College, Carnegie Mellon University

Intermediate Economics (taught by Marty Gaynor) — *Fall 2016-2017*
Heinz College, Carnegie Mellon University

Health Economics (taught by Marty Gaynor) — *Fall 2016-2017*
Heinz College, Carnegie Mellon University

Calculus I, II, III — *2011-2012*
Department of Mathematics, University of Chicago

AWARDS AND HONORS

Carnegie Mellon University Presidential Fellowship — *2015-2016*
National Merit Scholarship, University of Chicago — *2009-2013*

COMPUTER SKILLS

R, Python, Stata, MATLAB, LaTeX

Carnegie Mellon

Martin Gaynor
E.J. Barone University Professor of Economics
and Public Policy
Director, Ph.D. Program
H. John Heinz III College
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, Pennsylvania 15213-3890

September 23, 2018

NBER Health Boot Camp Application Committee:
Benjamin Handel, Katherine Ho, Jonathan Kolstad

Dear Ben, Kate, and Jon:

I am delighted to recommend my PhD Student **Shruthi Venkatesh** for the NBER Boot Camp in Health Economics. Shruthi would benefit enormously from this workshop. Her work is focused on examining the impact of health care market structure on physician incentives, patients, and overall welfare. While Shruthi is excited about these questions, and has made some very nice research progress, there are no PhD courses in Health Economics (or Industrial Organization) and relatively few faculty or PhD students working in this area at Carnegie Mellon University. For this reason, the Boot Camp would substantially improve her research: it will enable Shruthi to build a broader and deeper base in Health Economics, as well as a research community of peers.

Shruthi has the background she needs to benefit from this workshop. She's taken all of her basic coursework in microeconomic theory and econometrics, plus advanced coursework in econometrics, computational methods, structural econometric modeling, and machine learning. She has completed 3 years in the program here. In addition to coursework, our students have to complete two full length research papers. Shruthi has successfully completed these papers. She is doing further work to develop these projects, while contemplating what her final project will be for her dissertation.

In one of these projects, Shruthi is studying the effects of hospital acquisitions of physician practices on physician referrals, patient outcomes, and spending. She documents trends in acquisitions using the universe of Medicare claims from 2007-2012 (I believe she is the first to comprehensively document the universe of these acquisitions), and subsequently estimates the effect of changes in physician ownership on referral choices. Her initial estimates show that physicians are 7-10% more likely to refer to the owning hospital post-acquisition. Shruthi is further developing this by following up both to see what the impacts of altered referrals are on health outcomes and spending, and what determines acquisitions. One possibility she's considering for a (separate) dissertation project is looking at the competitive impacts of these acquisitions, in particular, whether the altered referral patterns lead to foreclosure.

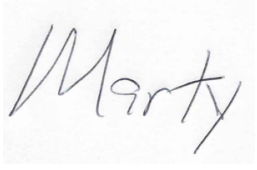
In another project, Shruthi is studying the impact of medical malpractice liability laws on the entry and location decisions of obstetrician/gynecologists using medical licensure data from the Texas Medical Board. Her descriptive results show that lower liability pressure leads to a 6% increase in ob/gyn supply, and this increase is concentrated in the least populated areas.

Both projects would strongly benefit from a better understanding of the economic mechanisms at play, and from more feedback on interesting and relevant directions from a Health Economics perspective. This Boot Camp offers both: it would enable Shruthi to better build a conceptual framework of the economics underlying supply-side behavior, and to design a viable path forward for her current work.

In addition, the exposure to cutting-edge research would help Shruthi brainstorm a pipeline of exciting new research ideas. While Carnegie Mellon has provided Shruthi with excellent training in economic theory and econometric methods, it does not offer Health Economics coursework or research seminars (nor does the University of Pittsburgh). For this reason, Shruthi's research pipeline would substantially benefit from exposure to state-of-the-art ideas in the Boot Camp.

Shruthi is a great fit for this workshop. She is excited to engage with health economics research. As Carnegie Mellon offers relatively little exposure to this field, her work would highly benefit from a stronger grounding in Health Economics and from interactions with other health economists. Moreover, she's at the point in her graduate development when this will be of maximum benefit – she's completed key coursework (including extensive methodological training), has substantive research experience under her belt, is refining that research, and is at the point where she's beginning to think about dissertation ideas. I should also mention that we now have a number of faculty at Carnegie Mellon who work on health economics topics (myself, Lowell Taylor, Maryam Saeedi, Anh Nguyen) and on empirical IO (me, Maryam, Anh, and Akshaya Jha). This provides Shruthi with faculty support to help her take advantage of what she's learned at the workshop. She will also be an active participant – engaging with workshop faculty and other students. The Boot Camp would enable her to build a research agenda shaped by ideas at the forefront of the field, as well as a research community. I give her my highest recommendation, and hope you will be able to offer her a space in the workshop. Please don't hesitate to contact me if I can provide further information.

Best,



Martin Gaynor

Applicant information: Shruthi Venkatesh
Carnegie Mellon University
shruthiv@cmu.edu
(224)-622-8483

Recommendation writer: Martin Gaynor

September 23, 2018
To: The NBER Health Economics Boot Camp Application Committee

Dear Application Committee:

I am a current fourth-year PhD student at Carnegie Mellon writing to apply for the NBER Health Economics Boot Camp. My work aims to examine the impact of health care market structure on physician behavior and patient welfare. However, there are few faculty members or grad students, and no PhD courses in health economics at Carnegie Mellon University. For this reason, the Boot Camp would substantially enrich my work: it would enable me to broaden and deepen my grounding in health economics, and to build a research community of peers.

My ongoing research would benefit from a stronger understanding of health economic mechanisms and from more feedback on interesting and relevant potential directions from a health economics perspective. For example, in one project, I am studying the effect of hospital acquisitions on physician referrals and ultimately patient welfare. I document trends in acquisition using the universe of Medicare claims from 2007-2012, and subsequently estimate the effect of changes in physician ownership on referral choices. So far, I find that physicians are 7-10% more likely to refer to the owning hospital post-acquisition. In another project, I am studying the impact of medical malpractice liability laws on the entry and location decisions of ob-gyns using medical licensure data. My descriptive results show that lower liability pressure leads to a 6% increase in ob-gyn entry concentrated in the least populated areas. Both projects are in early stages, and stand to improve from a better conceptual framework of supply-side behavior in health care markets and from more feedback on research direction. The Boot Camp offers both: it would help me build a stronger understanding of provider behavior along with a viable path forward for my current work.

In addition, the Boot Camp would help me brainstorm a pipeline of exciting future work. While Carnegie Mellon has provided me with excellent training in topics from Microeconomic Theory to Econometrics and Machine Learning, it does not offer any research seminars or PhD courses in health economics, and has few faculty or graduate students working in this area. For this reason, my research pipeline would strongly benefit from exposure to the cutting-edge work presented in the Boot Camp.

Overall, the Boot Camp would enable me to build a research agenda shaped by ideas at the forefront of health economics as well as a research community in the field. Thank you for your consideration. I welcome the opportunity to discuss my application and research further. Please feel free to reach out with any questions at shruthiv@cmu.edu or (224)-622-8483.

Sincerely,
Shruthi Venkatesh

Rationale Essay: Shruthi Venkatesh

My work studies the impact of health care market structure on physician incentives and patient welfare. At present, I have two early-stage projects that would highly benefit from a better understanding of the health economic mechanisms at play, and from feedback on potentially interesting directions from a health economics perspective. In my future work, I aim to build a research agenda that continues to investigate how health care market structure shapes provider behavior and patient welfare.

To this end, Carnegie Mellon offers relatively little exposure to the field of health economics. There are only a few faculty and graduate students who work in this area, and there are no research seminars, PhD courses, or other resources for research in health economics at Carnegie Mellon or any other university in the same city. For this reason, I believe that this workshop would substantially expand my exposure to the field of health economics. It will broaden and deepen my grounding in the field, and enable me to build a research community of peers. Ultimately, this exposure would not only benefit my ongoing projects, but also enrich my future work.

In one ongoing project, I am studying the impact of hospital acquisitions on physicians' referral choices and patient welfare. I document patterns in hospital acquisition of physician practices using the universe of Medicare claims from 2007-2012 and subsequently estimate the impact of these acquisitions on physicians' referral choices. I use an event-study approach to show that that acquired physicians are 7-10% more likely to refer a patient to the owning hospital post-acquisition, and that this effect remains stable over time. I also find that this increase in referrals to the acquiring hospital is offset by a 6-8% drop in referrals to independently-owned physician offices and a 1-2% drop in referrals to other hospitals. This suggests that physicians substitute referrals to independent providers with referrals to the owning hospital post-acquisition. Attending the Boot Camp would help me better understand the economics behind this change in physician referral patterns. I hope to understand the mechanisms behind this shift in physicians' referral behavior, and how this shift could affect the tradeoffs that patients face in choosing health care providers. A sound grasp of the economic mechanisms at play would enable me to empirically examine the effect of hospital acquisition on patient welfare with Medicare claims or other sources of data.

In another project, I am studying the impact of medical malpractice liability laws on ob-gyn entry and practice behavior. The 2003 Medical Malpractice Reform Act in Texas introduced a 50% reduction in the maximum damage award payable to injured parties in the case of malpractice, along with other administrative requirements that effectively decrease physicians' cost of malpractice. This potentially generates an incentive for physicians to enter and practice in Texas markets. I find that the reduction in liability pressure leads to a 10% drop in medical malpractice insurance premiums across the state among ob-gyn specialties, and a 6% increase in ob-gyn entry. I adapt a Bresnahan and Reiss (1991) entry model to show that post-reform, the population threshold required to sustain the monopolist ob-gyn falls across the state. The

largest decreases in population thresholds are concentrated in the most isolated counties. This project stands to benefit from a better understanding of the economics of physician services markets, and the tradeoffs that both physicians and patients face post-reform. This would in turn help empirically examine the effect of lower liability pressure on physician service markets, and perhaps on the health care costs and quality that patients face.

I plan to continue pursuing a research agenda that investigates the ways in which health care market structure shapes provider behavior and patients' well-being. In addition to the projects outlined above, I'm interested in exploring the effects of provider market structure on patients' ability to shop for price or quality in their choice of providers. More broadly, I hope to explore the effect of health care market structure on the information that patients receive, and on the tradeoffs patients face in choosing health care. Ultimately, I aim to develop a research pipeline with well-defined questions that address the relationships between market structure, supply-side behavior, and patient welfare in health care. This workshop offers a fantastic opportunity to broaden and deepen my grounding in health economics and develop a research community of peers. As Carnegie Mellon offers relatively little exposure to health economics research, this would substantially benefit my ongoing projects and enable me to build a research agenda shaped by cutting-edge ideas in the field.