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Dr. Ben Handel
National Bureau of Economic Research

Sep 27, 2019

Dear Dr. Handel,

Please accept this cover letter as a signal of my interest in attending the 2019 NBER Health Economics Bootcamp. I am a PhD student in Policy Analysis and Management at Cornell University. I hold degrees in medicine and economics and I completed a residency in family medicine in 2017. I am a licensed physician with an interest in how constraints, risk, and incentives influence the diagnostic and treatment decisions of physicians.

I have a longstanding interest in health economics which has prepared me for attending the conference. My masters thesis topic was on the income elasticity of health spending in Canada and I have completed courses in health economics at Queen's University and empirical methods courses at Queen's University and Cornell. I am currently completing the health economics course sequence at Cornell.

I think that I can also provide an number of unique perspectives to the conference. I have worked in the Canadian health care system and so can provide some insight into how single payer systems operate. I have interacted directly with patients and so have been exposed to the psychology of their decision making. Finally, as a generalist physician, I have recent practice experience in emergency, hospital, and outpatient medicine. I think that this coupled with my strong background in economics can provide a different lens through which to view economic applications to health.

Attached to this submission is my curriculum vitae and research summary. Dr. John Cawley is my PhD supervisor and has agreed to provide a letter of recommendation on my behalf. I am grateful for the opportunity to attend the conference. Many thanks for your consideration.

Regards,

Stephenson Strobel

Stephenson Strobel

CONTACT INFORMATION

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2301 Martha Van Rensselaer Hall - 607-319-1821
Ithaca, NY 14853 sbs296@cornell.edu

RESEARCH INTERESTS

Health economics; public economics; poverty and health; labor economics

APPOINTMENTS

Niagara Health System Niagara, ON

- Emergency physician (locum) - CPSO license 107087

University of Manitoba - Northern Medical Unit Winnipeg, MB

- Family physician (locum) - CPSM license 18-249

EDUCATION

Cornell University, Ithaca, NY

- PhD, Policy Analysis and Management, Expected Date of completion - 2022

University of Toronto, Toronto, ON

- Residency, Family Medicine, May 2017

University of Manitoba, Winnipeg, MB

M.D., Medicine, May 2015

BSc., Medicine, May 2015

- Topic: *Adolescent labour market outcomes and illicit substance use and abuse*
- Advisor: Evelyn Forget, Ph.D

Queen's University, Kingston, ON

M.A., Economics, Oct 2011

- Topic: *The rising share of health spending and income in Canada.*
- Advisor: Huw Lloyd-Ellis, Ph.D

McMaster University, Hamilton, ON

B.A. (Hons.), Economics, May 2010

- *Summa Cum Laude*

RESEARCH EXPERIENCE

Research Assistant January 2019 to May 2019
Department of Policy Analysis and Management,
Cornell University
Supervisor: Thomas Hoe, Ph.D

Research Assistant May 2011 to August 2011
Department of Community Health Sciences,
University of Manitoba
Supervisor: Evelyn Forget, Ph.D

Research Assistant May 2010 to August 2010
Department of Community Health Sciences,
University of Manitoba
Supervisor: Evelyn Forget, Ph.D

Published Papers

1. Forget E., Peden A., and **Strobel S.** (2013) "Cash transfers, basic income, and community building" *Social Inclusion*, 1(2) pg.84-91.
2. Peden A., **Strobel S.**., and Forget E. (2014) "Is herpes zoster vaccination likely to be cost-effective in Canada?" *Canadian Journal of Public Health*, 105(4) pg.e287-e295.
3. **Strobel S.**, Forget E., (2015) "Revitalizing Poverty Reduction and Social Inclusion" *The Manitoba Law Journal: Underneath the Golden Boy.* 37(2) pg.259-276.
4. **Strobel S.**, Ben-Yakov M., Tessaro MO., Boutis., K (2017) "Intwosusception': Case report of two sisters presenting simultaneously with intussusception." *Canadian Family Physician* 63(11) pg.863-865.
5. **Strobel S.**, Peters R., Toubassi D., (2018) "Practice sharing among residents in a family medicine teaching unit." *Canadian Family Physician* 64(7) pg.546-548

Technical Reports

1. Forget E., Peden A, **Strobel S.** 2013. "Critical Assessment and Review of Studies on the Cost-Effectiveness of Zoster Immunization". A report prepared for ICID. Winnipeg. (29 pages)

Unpublished Papers

1. Forget E., **Strobel S.**, and Peden A. "Costing a guaranteed income supplement for Canada."
2. **Strobel S.**, Forget E. "Guaranteed income and marriage dissolution: How did the statistical claims alter the debate?"
3. Peden A., **Strobel S.**, Forget E., Tate R. "Up in the air? Ineqaulity and long-run cardiac health in a sample of Canadian airmen from World War 2."

Awards

Awards — General

- Canadian Centre for Health Economics Fellow — 2014-2015

Awards — University of Manitoba

- Manitoba Medical Service Foundation - Dr. Norman and Margaret Corne Memorial Award — August 2013
- Statistics Canada - Research Data Centre Award — May 2013

Awards — Queen's University

- R. Samuel McLaughlin Fellow in Economics — September 2010

Awards — McMaster University

- Deans Honour list — 2007-2010
- McMaster Student Entrance Award — September 2007

Presentations

Health and Economics Meetings

- ICRE Conference, Halifax, NS — October 2018
- CEA Annual Conference, Toronto, ON — May 2015
- CRCDN Annual National Conference, Winnipeg, MB — October 2014
- Canadian Health Economists Study Group (CHESG), Winnipeg, MB — May 2013
- CAHSPR, Montreal, QC — June 2012
- Error in the Sciences - Lorentz Centre, Leiden, Netherlands — June 2011

Cornell University

- Presentations in Emerging Research Seminar — September 2018
- Presentations in Emerging Research Seminar — May 2019

University of Manitoba

- Community Health Sciences Colloquium — January 2013
- Global Health Interest Group — January and February 2013
- Health Economics Journal Club — September 2012 to June 2013

Teaching Experience

Teaching Assistant — August 2018-December 2018
PAM 4280 - The Economics of Risky Health Behaviors
Instructor: John Cawley, Ph.D
Department of Policy Analysis and Management,
Cornell University

Teaching Assistant — September 2010–May 2011
ECON 110A&B - Principles of Economics
Instructor: Ian Cromb, Ph.D
Department of Economics,
Queen's University

Teaching Assistant — January 2010– May 2010
ECON 2D03 - Economic Issues
Instructor: Rashid Khan, Ph.D
Department of Economics,
McMaster University

Hardware and Software Skills

Data Analysis:

- Knowledge of Stata and R statistical packages
- Knowledge of ArcGIS and Geoda spatial analysis packages
- Limited knowledge of Matlab mathematical package

Programming:

- Limited knowledge of Microsoft Visual Basic
- Limited knowledge of Python

Graduate Courses (Cornell University)

- PAM 6050 - Principles of Demography — Daniel Lichter
- PAM 6090 - Empirical Strategies for Policy Analysis I — Jordan Matsudaira
- PAM 6091 - Empirical Strategies for Policy Analysis II — Zhuan Pei
- PAM 6390 - Microeconomics — Brandon Tripp
- PAM 6410 - Health Economics — John Cawley
- PAM 6970 - Empirical Public Finance & Tax — Michael Lovenheim
- ECON 7420 - Seminar in Labor Economics I — Evan Riehl
- ECON 7430 - Seminar in Labor Economics II — Francine Blau & Lawrence Kahn
- AEM 6010 - Writing Research Proposals — Mark Constas
- GOVT 6089 - Time Series Analysis — Peter Enns

NBER Research Statement

Stephenson Strobel

October 10, 2019

1 Purpose of Application

The purpose of my participation in this bootcamp is threefold. First, while I think that my background has sufficiently prepared me for the conference, my major goal is to improve my theoretical knowledge. This would be with specific application to explaining empirical phenomenon. I believe that this exposure would provide more rigour to my future research papers. Second, my hope was to better understand how cutting edge research in economics translates into publications. I believe that interaction with some of the top researchers would provide better information on how to sharpen my ideas and enable me to communicate better. My last major goal is to gain a better understanding of how competitive systems of delivering health care operate in the United States.

2 Research Interests

My research interests are in how constraints and incentives affect physician diagnostic and treatment decisions and the impacts these have on patients. These interests are more specifically delineated along three separate papers. The first topic is on how crowding and changing incentives in a system of emergency departments (ED) cause changes to the decisions that physicians make. The second topic is on how the effects of physician prescribing habits transmit to peer physicians. The third topic is on how a physician strike affects long run health outcomes among patients born during the strike period.

The first topic examines how physicians within a series of EDs change their production function in response to higher patient flows and changes to effective wages. The ED system consists of five separate emergency departments which are serviced by the same group of physicians. These EDs differ in the payment structure for physicians with two of the sites having pure fee-for-service payment schemes, one having a hourly wage with 30% of billings added on top, and two sites having hourly wages with 15% of billings added. In addition to this cross-site variation in payments these sites are subject to shocks of patients because of a unique regression discontinuity created by the systems online wait time trackers. A machine learning algorithm predicts wait times for patients at each site which is then posted online for patients to view and decide upon their preferred site. The machine learning algorithm predicts a continuous estimate (ie. 67 minutes) which is rounded to a 30 minute wait time (ie. 60 minutes). Where these shocks occur, this increases the observed online wait time which then pushes patients away effectively "un-crowding" that site. This results in patients moving towards other sites which crowd these alternate sites.

The major research question then relates to how physicians alter the mix of capital and labour they use in producing diagnoses and health for their patients. One can think of the way that a physician produces health is as a function of the labour they spend with a patient collecting histories and performing a physical and the capital that they

use such as diagnostic tests, and medicines like antibiotics. A physician can spend more time with a patient and obtain more certainty about a patients condition. Alternately they can use expensive capital to arrive at a diagnosis. When EDs are crowded though spending time increases risk because the physician must interview patients in order to obtain information at the expense of time spent on another patient. With less time and less revealed information this might cause risk to pool of patients and physician if physician misses diagnoses. This might suggest that the optimal strategy for the physician is to change their practice patterns to use more capital intensive ways of producing health. How this crowding interacts with the differing time incentives by site also speaks to how practice patterns change in response to changing risk.

The second topic relates to physician peer effects. There is significant evidence that physician treatment habits tend to cluster geographically even though there is little evidence that this improves health. Further, epidemics in prescribing, like that of the opioid crisis in the United States, tend to cluster in geographic areas. While the focus has been on demand-sided causes of this, there has been less interest in examining how peer effects transmit prescribing practices. This research uses a comprehensive database of physicians in Ontario which attaches all physicians to practices. All prescribing that is provided for patients who collect social assistance through the Ontario Disability Support Program is available from 1990. In addition, all prescribing of narcotics such as opioids is available since 2012 through the narcotics monitoring system.

The identifying strategy to assess physician peer effects is to use physicians that join and leave practices and examine how prescribing changes among the mover and their practice mates. This occurs when physicians graduate from residency, when they switch practices, and when they retire from practice. This variation also allows for examination of how experience and practice length can influence peers, and the detailed data allows one to examine how practice size and other practice characteristics influence peer prescribing. This has applications to medical education, rising health care costs and how best to deal with "problem" prescribers.

Finally, the third topic relates to the long-run impact of physicians on health of patients. Leveraging a province-wide physician strike that occurred in Saskatchewan in 1962, I aim to assess how this severe reduction in the supply of physicians impacted patient health. Using Statistics Canada vital statistics, and survey data I will assess the life span, cause of death, and health of persons born during the month of the strike as the treatment group. Persons born in Saskatchewan around the period of the strike and persons born in the adjacent provinces during the strike will serve as a quasi-control group.