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DOCTORAL STUDIES Massachusetts Institute of Technology (MIT)
PhD, Economics, Expected completion June 2016
DISSERTATION: “The Economics of Pain Management”

DISSERTATION COMMITTEE AND REFERENCES

Professor Jonathan Gruber
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Professor Heidi Williams
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PRIOR EDUCATION Massachusetts Institute of Technology, 2007
S.B. in Economics, S.B. in Political Science

CITIZENSHIP United States

GENDER: Female

SKILLS	Programming: Stata, Python, LaTeX, Bash scripting, ArcGIS, SQL	
	Languages: English, Indonesian (conversational)	
FIELDS	Primary Fields: Health Economics, Public Finance	
	Secondary Fields: Development Economics	
TEACHING EXPERIENCE	14.01 Principles of Microeconomics (Undergraduate) Teaching Assistant to Professor Jonathan Gruber, MIT	Fall 2013
	14.01 Principles of Microeconomics (Undergraduate) Teaching Assistant to Professor Jeffrey Harris, MIT	Spring 2014
RELEVANT POSITIONS	Co-founder and Chief Economist at Adherean, Inc.	2011-2013
	Research Analyst for Rachel Glennerster, Jameel Poverty Action Lab	2009-2011
	Research Assistant to Ben Olken and Rema Hanna, Jameel Poverty Action Lab and World Bank Indonesia	2008-2009
	Luce Scholar (Indonesia) and Researcher, Akatiga Foundation	2007-2008
	Co-founder and Co-inventor, XoutTB	2007-2010
	Research Assistant to Ben Olken, Jameel Poverty Action Lab	2006-2007
FELLOWSHIPS, HONORS, AND AWARDS	NBER Health and Aging Pre-Doctoral Fellowship	2015-2016
	National Science Foundation Graduate Research Fellowship	2011-2016
	Graduate Student Council Service Award	2013
	Henry Luce Scholar	2007-2008
	Lemelson-MIT prize, IDEAS Competition	2007
	Political Science department Outstanding Thesis Award	2007
	Sigma Xi	2007

**RESEARCH
PAPERS**

“Opioids for the masses: Welfare tradeoffs in the regulation of narcotic pain medications” (Job Market Paper)

Use of prescription opioid pain relievers to manage pain has increased fourfold since 1999, as medical guidelines have increasingly emphasized that appropriate pain management is required for an acceptable standard of care. However, a concomitant rapid rise in opioid abuse, addiction, overdose, and death has led to recent efforts to crack down on opioid prescribing. This paper sheds light on the tradeoffs of public policies that reduce the supply of medical opioids by investigating their health, labor, and welfare ramifications. I exploit state-level variation in the introduction of Prescription Monitoring Program (PMP) laws, and make use of several rich data sources, documenting that PMPs reduce the distribution of opioids, and achieve a key policy goal by reducing opioid overdose deaths by about 12%. I also find substantial costs resulting from these policies, including increased pain in the hospital setting, more missed days for injured and disabled individuals, and substitution towards more expensive medical care. A rough back-of-the-envelope welfare calculation suggests the welfare losses and gains from regulation are on the same order of magnitude - approximately \$12.1 billion per year in increased costs from inpatient and outpatient medical spending plus lost wages, compared to \$7.3 billion per year in benefits from lives saved from opioid and heroin overdose.

Media Coverage:

The Boston Globe, "With opioids, can you fight addiction without causing pain?"

Quartz, "What's killing white, middle-aged women in America?"

Marginal Revolution, "Opioids for the masses?"

**RESEARCH IN
PROGRESS**

“Understanding recent expansion in the demand for heroin”

Heroin overdose deaths have increased by 40% yearly since 2010, increasing from 3,048 in 2010 to 8,291 in 2013, the most recent year data are available. I investigate the determinants of this marked expansion in heroin overdose death, focusing on two potential explanations. First, I examine substitution by users between prescription opioid pain relievers and heroin. I study the effect of county-level illicit opioid availability, exploiting variation from state-level prescription crackdowns, and using a county border strategy that tests for cross-state spillovers from crackdowns in neighboring states. Second, I examine the role of lower heroin prices in heroin demand. I exploit variation in drug trafficking networks from south of the border through the United States, where east coast white powder is usually supplied by Colombia, and west coast black tar is typically supplied by Mexico, and utilize intertemporal differences in interdiction efforts in Colombia and Mexico. I find evidence that heroin is a short-run substitute and long-run complement for prescription opioids, and that opioids prescribed through the medical care system have therefore played an important role in driving the current expansion in heroin use. Research on the role of lower heroin prices in increased demand is ongoing.