# **Chad Stecher**

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#### Education

Ph.D. Candidate in Economics, University of California, Los Angeles

<u>Thesis Title</u>: "Essays in Health Economics" Expected Completion Date: June 2017 2016 - 2017 Job Market Candidate

M.A. Economics, University of California, Los Angeles, 2012

B.A. in Economics and Mathematics, Colby College, 2008

#### References

Professor Dora Costa (main advisor) costa@econ.ucla.edu (310) 825-4249
Professor Arleen Leibowitz leibowia@luskin.ucla.edu (310) 206-8653

Dr. Sebastian Linnemayr slinnema@rand.org (310) 393-0411, x6734

Professor Adriana Lleras-Muney alleras@econ.ucla.edu (310) 825-3925

# **Teaching and Research Fields**

Primary fields: Health Economics, Development Economics

Secondary fields: Social Network Analysis, Behavioral Economics, Applied Microeconomics

# **Teaching Experience**

Teaching Assistant, Department of Economics, UCLA

Spring 2014	Professor	Joseph Ostroy	History of Economic Theory
Winter 2014	Associate Professor	Till von Wachter	Econometrics
Fall 2013	Assistant Professor	Tomasz Sadzik	Microeconomic Theory
Spring 2013	Visiting Faculty	Edward McDevitt	Introduction to Microeconomic Theory
Winter 2013	Adjunct Assistant Professor	Randall Rojas	Principles of Microeconomics
Fall 2012	Adjunct Assistant Professor	Randall Rojas	Principles of Microeconomics

## **Other Professional Experience**

Senior Research Assistant, Federal Reserve Bank of Boston, 2008 - 2010

Research Assistant for Professor Liam O'Brien, Colby College, 2006 - 2008

Summer Analyst, Analysis Group, Inc., Los Angeles, CA, 2006 & 2007

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### **Awards and Honors**

2015 - 2016	NIA Predoctoral Fellowship, UCLA
2014 - 2015	NICHD Predoctoral Fellowship, UCLA
2014	Teaching Assistant Award, UCLA
2013	NIH Research Grant, UCLA
2011	Undergraduate Mentor Scholarship, UCLA
2008	Highest Honors Mathematics Thesis, Colby College
2008	Homer T. Hayslett Prize in Statistics, Colby College
2007	Elected to Phi Beta Kappa, Colby College

# **Research Support**

Project consultant for (P.I.) Dr. Sebastian Linnemayr, RAND Corporation. 2012 – present

Project Title: Variable Rewards Incentives for ART Adherence in Uganda; NIMH/NIH: R34 MH096609

Research Assistant for (P.I.) Associate Professor Manisha Shah, UCLA. 2014 - present

Project Title: Promoting Safe Sex for Adolescents in Tanzania

Research Assistant for (P.I.) Dr. Ashelsha Datar, RAND Corporation. 2010 - 2012

Project Title: Economics of Natural Disasters and Epidemics; NICHD/NIH: R03 HD061688

# Job Market Paper

#### "Is Quality Contagious? The Role of Physician Networks in Promoting Quality HIV Care"

Physicians' non-adherence to clinical care guidelines has been observed for many health conditions, and has particularly damaging repercussions for both HIV-infected patients' health and for policies to reduce the domestic HIV epidemic. This paper investigates the role of physician networks in promoting quality (more adherent) HIV care for publicly insured patients in California between 2007 and 2010. I identify physician peers through shared patients and develop repeated observations of medication regimen and disease monitoring quality across physicians and patients. Using the structure of physician networks to create instrumental variables, I find heterogeneous effects across peer types. Generalist peers have no effect on medication decisions, but a one percent improvement in HIV specialist peers' medication regimen quality increases generalists' medication regimen quality by 0.15 percent. Using social network statistics that describe a physician's relative network position, I find that increased collaboration among physicians of both types is the only significant network contributor to higher quality disease monitoring. Simulations show that improving generalists' network connections to specialists could provide adherent medication regimens to an additional 2,779 patients in California in 2010, reducing the annual number of new infections by 5 percent. These findings illustrate the potential for network connections to diffuse complex treatment protocols and suggest specific mechanisms for reducing the HIV epidemic, which is disproportionately burdening underrepresented demographic communities in the U.S.

### Other Research

# "Can Behavioral Economic Incentives Promoting Medication Adherence Improve Other Intertemporal Choices?" (with Sebastian Linnemayr)

This paper evaluates the impact of behavioral economic incentives that target antiretroviral medication adherence on patients' intertemporal decision-making in other settings. A variable-rewards incentive mechanism was implemented among a sample of HIV-infected adults through a randomized controlled trial in Kampala, Uganda between 2012 and 2015. As behavioral economic theory would suggest, larger intervention effects are observed among participants who display behavioral biases identified in the baseline survey. Survey measurements additionally quantify intervention effects on other behaviors, where preliminary results find that participants in

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the intervention group have increased savings and lower rates of drinking and smoking. These findings suggest that behavioral economic interventions can induce positive spillover effects on intertemporal decision-making in other contexts.

## "The Impact of Recession on Health Behavior"

This project describes how changes in market work hours affect the time allocated towards health maintenance behaviors over the business cycle. Utilizing daily time-use journals compiled by the American Time Use Survey (ATUS) between 2003 and 2014, the analysis focuses on the reallocation of time towards health promoting behaviors resulting from lost formal work hours during the great recession. Comparisons of time use before and after the recession, as well as between states that experienced different recession severities, find that roughly 10% of lost work hours are allocated to physical activities, increasing the probability of meeting the CDC's daily recommendation of 30 minutes of physical exercise by 12%. This shift towards healthier behavior corroborates the previously observed cyclicality of personal health in the United States.

# "Behavioral Economic Incentives to Improve Adherence to Antiretroviral (ARV) Medication: Early Evidence from a Randomized Controlled Trial in Uganda"

(with Sebastian Linnemayr) AIDS (in revision)

Innovative approaches are needed to improve adherence to antiretroviral (ARV) medication in sub-Saharan Africa to maintain HIV patients' health and avoid drug resistance in a region where second-line regimens are often unavailable or prohibitively expensive. This study evaluates whether small prizes allocated by drawings conditional on timely clinic visits and appropriate pill-taking can increase ARV adherence in this setting. 155 HIV-positive men and women in Kampala, Uganda aged 19-78 were randomized to 1 of 2 intervention groups or a control group receiving the usual standard of care. Participants in the first intervention group were eligible for prize drawings conditional on attending scheduled clinic appointments; eligibility in the second group was based on ARV adherence measured by medical event monitoring system caps. Results from the first nine months of this intervention show statistically significant improvements in the percent of participants who maintain mean adherence rates of 90% or higher in both intervention groups relative to the control. Such lotteries may represent a highly cost-effective and scalable mechanism for improving adherence in this region.

#### **Publications**

# "Behavioral Economics Matters for HIV Research: The Impact of Behavioral Biases on Adherence to Antiretrovirals (ARVs)"

(with Sebastian Linnemayr) AIDS and Behavior, 19 (2015): pp. 2069 – 75.

We present novel evidence on the prevalence of the common behavioral decision-making errors of present-bias, overoptimism, and information salience among 155 Ugandan HIV patients, and analyze their association with subsequent medication adherence. 36% of study participants are classified as present-biased, 21% as overoptimistic, and 34% as having salient HIV information. Patients displaying present-bias were 13% points (p=0.006) less likely to have adherence rates above 90%, overoptimistic clients were 9% points (p=0.04) less likely, and those not having salient HIV information were 17% points (p<0.001) less likely. These findings indicate that behavioral economic tools may be used to screen for future adherence problems and to better design and target interventions addressing these behavioral biases and the associated suboptimal adherence.

#### "The Impact of Natural Disasters on Child Health and Investments in Rural India"

(with Ashlesha Datar, Jenny Liu, and Sebastian Linnemayr)

Social Science and Medicine, 76 (2013): pp. 83 - 91.

In this paper, we present one of the first investigations of the impact of small and moderate disasters on childhood morbidity, physical growth, and immunizations by combining household data on over 80,000 children from three waves of the Indian National Family and Health Survey with an international database of natural disasters (EM-DAT). We find that exposure to a natural disaster in the past month increases the likelihood of acute illnesses such as diarrhea, fever, and acute respiratory illness in children under 5 by 9-18%. Exposure to a disaster in the past year reduces height-for-age and weight-for-age z-scores by 0.12-0.15 units, increases the likelihood of stunting and underweight by 7%, and reduces the likelihood of having full age-appropriate immunization coverage by nearly 18%. We also find that disasters' effects vary significantly by gender, age, and socioeconomic characteristics. Most notably, the adverse effects on growth outcomes are much smaller among boys, infants, and families with more socioeconomic resources.