KAVEH DANESH
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Education

University of California, Berkeley, Ph.D. Economics, 2023 (expected)
University of California, San Francisco, M.D., 2023 (expected)
Harvard University, A.M. Statistics, 2015
Duke University, B.S. Mathematics with Distinction, 2012

Awards and Fellowships

Paul & Daisy Soros Fellowship for New Americans ($90,000), 2017–2019
National Institute of Health NICHD Training Fellowship ($24,000/yr), 2017–2019
NBER grant to study determinants of life expectancy by income and geography ($11,000), 2017
Berkeley Graduate Fellowship ($90,000; for top admitted doctoral students), 2016–2018
NDSEG Fellowship for Graduate Study in Mathematics ($32,000/yr plus tuition), 2013–2016
NSF Graduate Research Fellowship Honorable Mention, 2013
Fulbright Fellowship in China ($20,000), 2012–2013
Joukowsky Presidential Fellowship (for the top graduate school applicant), Brown, 2013 (declined)
MacCracken Fellowship (for PhD in Mathematics), NYU, 2013 (declined)
Student Leadership Award (for one graduating senior chosen by Duke Faculty), 2012
Graduation with Distinction in English, Duke, 2012
Graduation with Distinction in Mathematics, Duke, 2012

Professional Experience

Predoctoral Fellow to Emmanuel Saez and Danny Yagan, Berkeley, 2015–2016
Research Assistant to Agnes Binagwaho and Paul Farmer, Rwanda Ministry of Health, 2015
Teaching Assistant for Generalized Linear Models, Harvard, Spring 2015
Research Assistant to Amartya Sen, Harvard, 2014–2015
Research Assistant to Meghan O'Rourke, Radcliffe Institute, 2014–2015
Non-Resident Tutor in Mathematics at Pforzheimer House, Harvard, 2014–2015
Writer for President Obama, White House Internship Program, Summer 2014
Assistant Coach for Men's Varsity Soccer, Harvard, 2013–2015
Teaching Assistant for Genetics and Evolution, Coursera, Spring 2013
Trustee (elected by undergraduates to serve on Board of Trustees), Duke, 2012–2015
Research Assistant to Rick Durrett, Duke, 2011–2012
Teaching Assistant for Organic Chemistry, Duke, Fall 2010

Work In Progress

"The Association Between Parent Income and Postneonatal Mortality"
"Physician Supply and Population Health in Medically Underserved Areas" (with Benny Goldman)
"Does Left-Digit Bias Cost Lives?" (with Arlen Guarín)
"Racial Differences in Treatment of Pain: Evidence from the Intensive Care Unit"

Publications

"California Policy Quietly Fails Migrant Children," *Sacramento Bee*, 2016.
"War and Cancer," *Harvard Advocate*, 2013.
"A Branching Process Model of Ovarian Cancer" (with Rick Durrett, Laura Havrilesky, and Evan Myers). *Journal of Theoretical Biology*, 2012.

Ph.D. Coursework

Economic Theory (2 semesters), Macroeconomic Theory (2), Econometrics (2), Public Economics (2), Psychology and Economics (2), Labor Economics (1), Applied Econometrics (1), Introduction to Economic History (1) [all completed]

Languages

English (native), Farsi (native), Mandarin (professional), Spanish (conversational)

UNIVERSITY OF CALIFORNIA, BERKELEY

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September 21, 2018

Dear Colleagues,

I am writing to recommend Kaveh Danesh for the Health Economics Research Boot Camp for Graduate Students in December. Kaveh is a 3rd year graduate student in the Department of Economics at UC Berkeley. I have known Kaveh for three years, first as a predoctoral fellow (2015–2016) and now as one of the PhD students I supervise (2016–present).

As a predoctoral fellow, Kaveh assisted myself, Raj Chetty, John Friedman, and Danny Yagan with projects on U.S. distributional national accounts and the mediation of intergenerational mobility by U.S. colleges. Based at the IRS, Kaveh developed familiarity with the tax data and quickly gravitated toward research topics in health economics. Using the tax data and SSA death records, he documented a striking association between parent income and postneonatal mortality, forming the basis for an ongoing research project characterizing the intergenerational effects of income on health.

Kaveh joined our department as a doctoral student in Fall 2016. He received the Berkeley Graduate Fellowship, given to the best incoming students in our department and across the university, and has since completed field courses in public, labor, and behavioral economics. Having worked closely with Kaveh, I have been especially impressed with his creativity and initiative. He regularly stops by my office with updates and ideas for new projects.

I would like to highlight two of Kaveh's ongoing research projects. The first project, in the area of public economics, studies the effect of a prominent place-based policy on health outcomes. The policy aims to attract physicians to underserved areas by providing health care facilities in these areas with higher reimbursement rates and J-1 visa waivers for foreign doctors. To quantify effects on health, Kaveh plans to compare outcomes for areas that were nearly versus barely awarded status. This project is likely to

have direct policy implications and contribute to our understanding of the effects of health expenditures on health outcomes.

The second project, in the area of behavioral economics, studies the role of left-digit bias in determining infant health outcomes. Motivated by previous findings that consumers are inattentive to decimal digits of prices, Kaveh is studying the decision of whether to admit a newborn to the neonatal infant care unit (NICU). Preliminary findings show that children born with birthweight just above a multiple of 100 grams are 3-7 percentage points less likely to be admitted to the NICU than children born with birthweight just below a multiple of 100 grams. Kaveh plans to exploit this to study the long-run effects of medical treatment on health outcomes.

Lastly, I understand that one goal of the boot camp is to support future careers in health economics. Kaveh would be an excellent fit for this. In addition to being a doctoral student, he is completing medical school at UCSF with the long-term goal of reducing health inequality in the U.S. through both economics research and medical practice. In the past, Kaveh has worked as a research assistant to Dr. Paul Farmer and the Minister of Health of Rwanda. He cares deeply about health inequality, which I have noticed from our discussions about differences in population health between Berkeley and Oakland. Given his background and dedication to a career in health, I believe Kaveh will be a very strong addition to the group of graduate students you select. I support his application in the strongest possible terms.

Sincerely,

Emmanuel Saez



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Ms. Elisa Pepe
epepe@nber.org

September 21, 2018

Dear Ms. Pepe,

I am an economics doctoral student at UC Berkeley and a medical student at UCSF. Enclosed is my application, including curriculum vita and essay, for the Health Economics Research Boot Camp for Graduate Students.

My recommendation letter writer is Emmanuel Saez. I think he sent his letter in on Friday, Sept. 21.

Thank you for considering my application.

All the best,



Kaveh Danesh

Rationale for Attending Health Economics Research Boot Camp

"I don't care what the diagnosis is. I'm not going back there."

Mr. C, 37 years old, was sitting on the sidewalk just outside the homeless shelter where he lived. We were huddled over his right arm, which was swollen and red—and slowly turning grey.

"But your arm," I said. "The doctor said that—"

"I know what the doctor said," he said, glaring at me while putting a fresh cigarette to his lips. "I'll keep an eye on it."

An hour earlier, I had seen Mr. C in the shelter's student-run health clinic. His arm was red, tender, and slightly dusky. But what stood out more to my untrained eye was his social history: no primary care doctor, no health insurance; homeless and jobless; recovering heroin addict, wife addicted to alcohol, children taken away by Child Protective Services.

When the supervising physician came in, she took one look at his arm and realized he could have necrotizing fasciitis, a flesh-eating bacterial infection that was deadly if not treated promptly. She called an ambulance and told me to make sure he got to San Francisco General.

"But tell me, why don't you want to go to the hospital?" I said to Mr. C, sitting down next to him on the sidewalk.

"Cigarette?" he said, holding up a pack of Marlboros.

"No, but thanks."

He shrugged. "Well I already went this morning," he said. "They told me to go home and take some Tylenol. Like *that* was going to solve the problem." He lit up his cigarette. "If I go back now, I'll probably have to wait eight hours to be seen. And even then, they might just kick me out again."

"Wow," I said. "I'm sorry to hear that."

"Yeah," he said. "They probably figured I was an addict looking for prescriptions meds."

Mr. C took in several deep breaths of smoke. We sat in silence as a few cars passed by. In the distance, I heard the faint sound of an ambulance siren.

"Look, I know you don't want to go to there again," I said. "But this could be really serious. We don't want to wait until it's too late."

He looked down at his arm. The siren was louder now, no more than a few blocks away.

"That's your ride," I said. "Promise me you'll go?"

"Fine," he said, still looking at his arm. "I'll go."

Thinking back on my experience with Mr. C, I'm struck by how much economics graduate school taught me about his situation. From Alsan and Wanamaker (2017), I knew that Mr. C's hesitation to see the doctor, stemming from his distrust of the medical system, could have tangible effects on his health. From Garthwaite, Gross, and Notowidigdo (2018), I knew we were sending Mr. C to San Francisco General because it was, as the authors put it, an "insurer of last resort." From Card, Dobkin, and Maestas (2009), I knew that if Mr. C were admitted, his lack of insurance might worsen his quality of care. And from Chetty et al. (2016), I knew that Mr. C could expect to live 15 years less than someone in the top percentile of the income distribution.

I would like to attend the Health Economics Research Boot Camp to further immerse myself in the field of health economics. This includes learning from leaders in the field; better understanding the research frontier; forming a community with other graduate students interested in health economics; and furthering my own research interests, which lie at the intersection of health, public, behavioral, and labor economics. In the following paragraphs, I will describe four ongoing research projects that demonstrate my current interests, followed by a one-paragraph description of potential future interests.

The Association Between Parent Income and Postneonatal Mortality. The U.S. has a higher infant mortality rate than many other developed countries. But the extent to which this is driven by income versus other factors is not fully understood. In this project, I link IRS tax records to SSA death records to study the association between parent income and postneonatal mortality. Preliminary results show that children from the bottom 1% are eight times more likely to die than children from the top 1% (Figure 1). Additionally, I find that areas with high postneonatal mortality tend to have more single mothers and low labor force participation.

Physician Supply and Population Health in Medically Underserved Areas (with Benny Goldman). We study the effect of a policy intended to attract more physicians to medically underserved areas (MUAs) by exploiting a discontinuity in how MUA status is assigned (Figure 2). Preliminary results indicate that five years after designation, MUA status is associated with a 6% increase in physicians per capita, 13% increase in number of health care clinics, and 0.25% reduction in all-cause mortality.

Does Left-Digit Bias Cost Lives? (with Arlen Guarín). We document evidence of left-digit bias among health care workers deciding whether to admit low birthweight infants to the neonatal intensive care unit (NICU). Preliminary evidence shows that infants born just to the left of round birthweights are 3-7% more likely to be admitted to the NICU than infants born just to the right of round birthweights (Figure 3), resulting in a one-percentage-point lower infant mortality rate.

Racial Differences in Treatment of Pain: Evidence from the Intensive Care Unit. Using electronic health record data from a large urban intensive care unit, I find that black patients are 9% less likely to receive opioids than white patients for any level of maximum self-reported pain (Figure 4). The difference persists controlling for age, gender, insurance status, and length of stay.

Potential future research interests. There are several areas of health economics I am interested in further exploring. One is the use of field experiences [as in Bai, Handel, Miguel, and Rao (2017) or Alsan, Garrick, and Graziani (2018)] to bridge the gap between economics research and medical practice. Another is behavioral modeling [as in Baicker, Mullainathan, and Schwartzstein (2015) or Handel and Kolstad (2015)] to clarify assumptions, enable welfare evaluation, and evaluate policy counterfactuals. I would also like to explore the industrial organization literature on drug and hospital prices [as in Duggan, Garthwaite, and Goyal (2015) or Gowrisankaran, Nevo, and Town (2015)] to better understand the delicate balance between firm profits and patient access to care. My hope is that Boot Camp will expose me to parts of these interests that I can build upon through further reading and, eventually, new research projects.

Mr. C took the ambulance to San Francisco General. He was diagnosed with cellulitis, a bacterial skin infection that had spread to his lymph nodes, and discharged four days later.

The next time I saw him at the homeless shelter, he thanked me for encouraging him to go to the hospital. He talked in great detail about the care he received, including antibiotics for the infection, hydrocodone for the pain, and naloxone to prevent his addiction from flaring up. And he lifted up his sleeve so that I could see his arm.

When I saw no red or grey, part of me felt satisfied—medicine had done its job, after all, and Mr. C was cured. But another part of me wondered how social determinants of health would continue to shape his life course. How much longer until his poverty manifests as heart disease, until his cigarette addiction manifests as COPD, until he's sent to the emergency room but doesn't come back?

As a physician-in-training, I'm learning to care for one patient at a time. Boot Camp will help me develop the knowledge and skills needed to study social factors affecting many patients at once. That way, as a physician and health economist, I can support patients like Mr. C through both medical care and research.

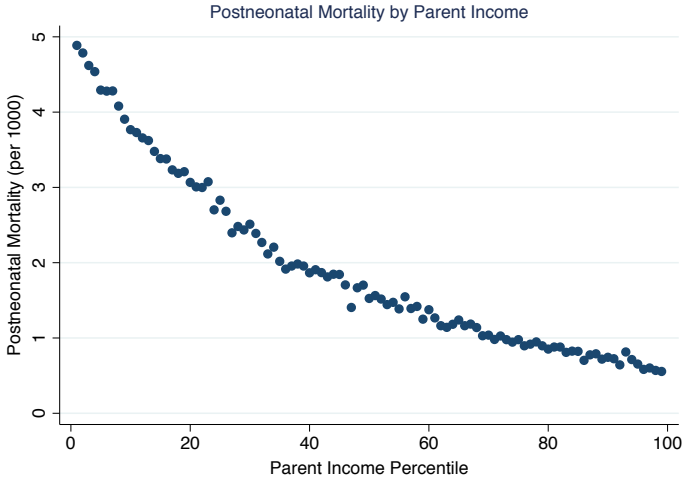


Figure 1. This figure plots postneonatal mortality (death between age 1 month and 1 year) as a function of parent income percentile. The sample includes all infants born between 2001 and 2015 who were assigned a social security number (N=34M). Parent income is defined as a five-year mean of adjusted gross income from infant age -4 to age 0; parents are ranked based on their position in the national income distribution of incomes relative to all other parents with a child in the same birth cohort.

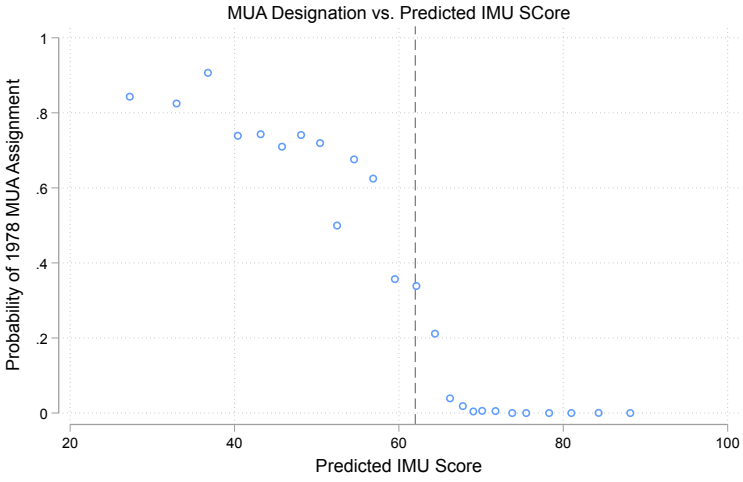


Figure 2. This figure is a working draft of the first-stage graph for a regression discontinuity design. It plots the probability of being designated as a medically underserved area (MUA) in 1978, the first year of the policy, against the index of medical underservice (IMU) score. According to the 1975 Federal Register, all counties with IMU scores less than 62 were intended to be designated as MUAs. The sample includes all U.S. counties (N=3,007). (Note: the estimates listed in the above essay were derived using an event study specification, not a regression continuity design.)

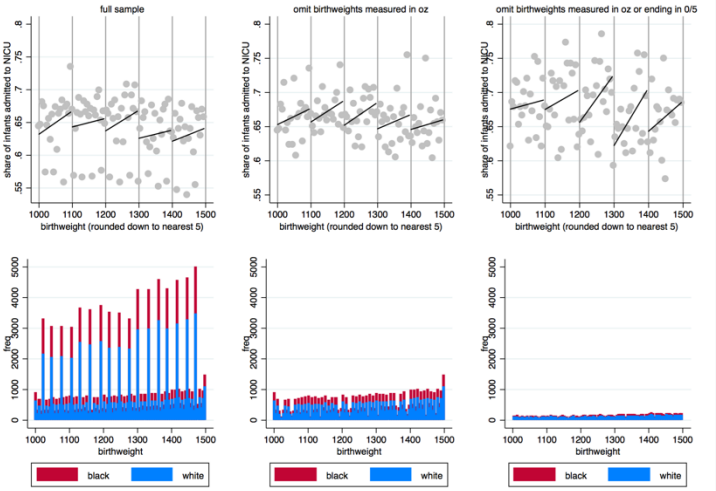


Figure 3. The top three plots depict the probability of admission to the neonatal infant care unit (NICU) as a function of birthweight, fitting a separate linear regression in each 100-gram bin. The bottom three plots show the accompanying histograms of birthweight. Plots are shown for three samples of infants born from 2005 to 2016 with birthweight between 1000 and 1500g, from left to right: (i) all infants (N=267k); (ii) infants whose birthweight was measured in grams (N=162k); and (iii) infants whose birthweight was measured in grams and was not a multiple of 5 (N=36k). These sample restrictions were made in an attempt to rule out sources of bias discussed in Barreca et al. (2011).

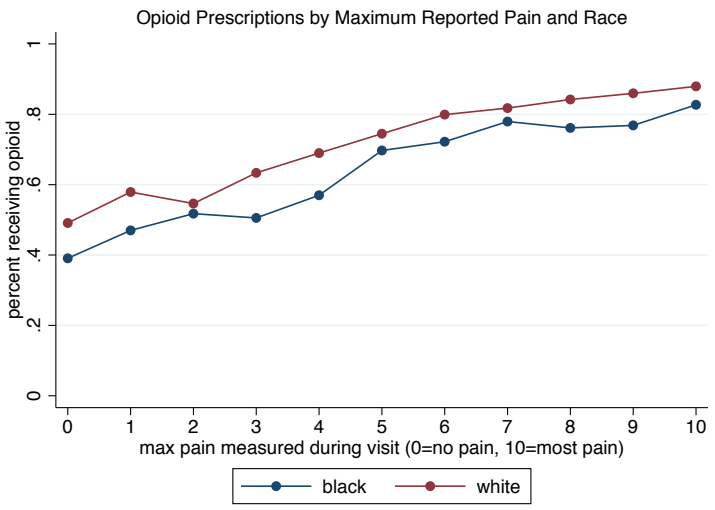


Figure 4. This figure plots the probability of being prescribed any opioid as a function of the maximum pain score reported by patients during their stay. The sample includes all adult patients who stayed at a large urban hospital's intensive care unit between June 2001 and October 2012 (N=38k).

References

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