# Claire Boone

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## RESEARCH AREAS

Health economics, health policy, behavioral economics, behavioral science, impact evaluation, clinical decision-making

#### **EDUCATION**

Ph.D. Health Policy, Health Economics, University of California, Berkeley 2022

MPH Epidemiology & Biostatistics, University of California, Berkeley 2017

BA&Sc Biology & Economics, McGill University 2013

#### REFERENCES

Paul Gertler, Professor, Haas School of Business, University of California, Berkeley. E-mail: gertler@berkeley.edu

Ziad Obermeyer, Associate Professor, School of Public Health, University of California, Berkeley. E-mail: zobermeyer@berkeley.edu

Jonathan Kolstad, Associate Professor, Haas School of Business and Department of Economics, University of California, Berkeley. E-mail: jkolstad@berkeley.edu

Ulrike Malmendier, Professor, Haas School of Business and Department of Economics, University of California, Berkeley. E-mail: ulrike@berkeley.edu

# JOB MARKET PAPER

# Title: The Role of Discretion in Clinical Decision Making: Evidence from Thresholds

Summary: When a decision maker has discretion, such as a worker reporting their taxable income, threshold-based rules or policies are known to distort behavior. This has not been studied in the context of medicine, where thresholds guide many important diagnosis and treatment decisions. Using bunching estimation & data from over 600,000 primary care visits in Chile I study how providers make diagnostic and treatment decisions for hypertension, defined as blood pressure  $\geq 140/90$  mmHg. Importantly, blood pressure is a noisy measure of risk and often over-stated when measured in clinic. I find a large behavioral response to the diagnostic threshold, suggesting providers use their discretion to re-categorize some positive tests as negatives. Here, the behavioral response leads to a more accurate classification of patients according to cardiovascular risk. Last, I find evidence suggesting providers use the representative heuristic to distinguish between true and false positives.

# WORKING PAPERS

Can a private health sector engagement program with social health insurance encourage pro-poor outcomes? Evidence from an impact evaluation in Kenya. (with P Gertler, J Gruber, & A Kwan).

Summary: We study the simultaneous supply- and demand-side effects of African Health Markets for Equity, a randomized management intervention that aimed to improve the quality and accessibility of private-sector clinics in Kenya. The program increased the share of clinics accepting, and households enrolled in, national insurance. This in turn increased the share of clinics' clients from lower wealth quintiles. We also conducted standardized patient (SP) experiments to measure the effects of

not being able to afford full services on quality of care. SPs presented as poor by telling the provider they could only afford KSH 300 in fees. We find that when faced with a client's budget constraint, providers reduced the quantity of both necessary and unnecessary care, resulting in lower quality of care for 'poor' clients.

# Do private providers give patients what they demand, even if it is inappropriate? A randomized study using standardized patients in Kenya. Revision requested at BMJ Open (with P Gertler, A Kwan, & G Sulis)

Summary: We use standardized patients to study the effects of a patient demanding one of two possible inappropriate medicines, as examples of trade-offs providers might make between risks, profits, and patient satisfaction. At private clinics in Kenya, demanding a deworming medicine significantly increased its rate of dispensing to 35% (95% CI: 25-44) compared to 3% (95% CI: 0-7) without demanding. Demanding an antibiotic did not change its probability of dispensing. These results show private providers appear to account for both business-driven benefits and individual health impacts when making prescribing decisions.

# IN PROGRESS

# SELECT WORK The Role of Appointment Reminders in the Management of Chronic Disease. (with P Celhay, P Gertler, & T Gracner).

Summary: Using event studies and a difference-in-differences design we evaluate the effects of an national, at-scale appointment reminder program on the health behaviors of over 300,000 patients living with chronic conditions in Chile. Reminders increased patients' use of preventative primary care, resulting in patients receiving more frequent health monitoring, more prescription updates, and better medication adherence. These patients were also more likely to be hospitalized for cardiovascularrelated reasons but less likely to die in hospital, which may be driven by referrals or better health seeking behaviors. We conclude that a simple and low-cost nudge can lead to a meaningful improvement in health-seeking behaviors when implemented at scale.

#### Who gets diagnosed with type 2 diabetes? (with P Geldseltzer)

Summary: Regression discontinuity design has been used to evaluate the effect of diagnosis and treatment in several clinical contexts. A common feature of these papers is the relatively small change in the probability of diagnosis or treatment at the clinical threshold, which is expected to be near 1. Using claims data from a large insurer in the United States we examine whether the change in diagnosis at the threshold for type 2 diabetes varies by patient race/ethnicity, sex, age, or provider characteristics.

# The Long-term Health Impact of In-Utero Exposure to Excessive Intake of Sugar. (with P Gertler & T Gracner)

Summary: Using sugar rationing in the United Kingdom in World War II, we provide some of the first causal estimates of the effect of exposure to excess sugar in-utero on health in adulthood. Using a regression discontinuity design we compare individuals exposed to sugar rationing during different developmental periods: in-utero and for the first two years of life, in-utero and for the first year of life, in-utero only, and not exposed to rationing. Using 54,758 UK Biobank participants, we find that cohorts exposed to sugar rationing in utero develop type 2 diabetes 2.1 years later than cohorts not exposed to sugar rationing. Effects are larger the longer an individual was exposed to rationing: a delay of 2.4 years if exposed in-utero and for the first year of life, and 3.5 years if exposed in utero and for the first 2 years of life.

Measuring behavioral biases in physicians: a standardized patient experiment in Rwanda (with P Gertler & A Stiney-Wellsjo)

Summary: Using randomized standardized patient experiments we test for whether common behavioral biases influence the clinical decisions of physicians in Rwanda.

Increasing the intensity of physical education reduces student enrollment: evidence from synthetic difference-in-differences (with N Perales & J Wang)

Summary: We use a synthetic difference-in-differences approach and data from the the Youth Risk Behavior Surveillance System survey to evaluate the effects of state school exercise policies on the behavior and health of students.

PUBLICATIONS How scheduling systems with automated appointment reminders improve health clinic efficiency Journal of Health Economics 2022 and NBER Working Paper 28166 (with P Celhay, T Gracner, P Gertler, & J Rodriguez)

> StayWell at Home: A Text Messaging Intervention to Counteract Depression and Anxiety during COVID-19 Social Distancing. JMIR Mental Health 2021. (with A Aguilera, C Figueroa, R Hernandez-Ramos et al.)

> Proximate determinants of tuberculosis in Indigenous peoples worldwide: a systematic review. Lancet Global Health 2019. (with M Cormier, K Schwartzman, N'Diaye D et al.)

> Zika: A scourge in urban slums. PLOS Neglected Tropical Diseases 2017. (with R Snyder, C Cardoso, L Riley et al.)

> Exploring genetic suppression interactions on a global scale. Science 2016. (with J van Leeuwen, C Pons, J Mellor et al.)

# **POLICY** REPORTS

African Health Markets for Equity Impact Evaluation (with D Contreras, R Cuckovich, P Gertler, J Gruber, A Kwan, & N Perales)

The Impact of SMS Appointment Reminders on Patient Health (with P Celhay, P Gertler, & T Gracner)

Educate! Evaluation: Four-year Follow-up Report (with D Carney, L Chioda, P Gertler, D Contreras, A Jager, & A Kwan)

# PRESENTA-**TIONS**

2021: American Society of Health Economists (ASHEcon), International Health Economics Association (iHEA), The People Lab at UC Berkeley

2020: Conference on Health IT and Analytics (CHITA)

### RESEARCH EXPERIENCE

The Sweet Life: the Long-Term Effects of a Sugar-Rich Diet, Research assistant for Dr. Paul Gertler, & Dr. Tadeja Gracner (2020-present)

African Health Markets for Equity, Research assistant for Dr. Paul Gertler (2019-2020)

Educate! Soft Skills and Entrepreneurship for Youth in Uganda, Research assistant for Dr. Laura Chioda & Dr. Paul Gertler (2017-2019)

# TEACHING EXPERIENCE

Behavioral Science UC Berkeley Goldman School of Public Policy, graduate level. Teaching assistant for Professor Elizabeth Linos [In progress, Spring 2022].

Epidemiological Methods I, UC Berkeley School of Public Health, graduate level. Teaching assistant for Professor Sandra McCoy, Fall 2017. Average rating 5.98/7 Introduction to Economics, UC Berkeley Economics Department, undergraduate level. Teaching assistant for Professor Martha Olney Fall 2016. Av. rating 5.95/7 Introduction to Economics, UC Berkeley Economics Department, undergraduate level. Teaching assistant for Professor Brad DeLong Spring 2016. Av. rating 6.51/7

### AWARDS

The Berkeley Center on the Economics and Demography of Aging Pilot grant	2021
UC Berkeley Institute for International Studies, Summer research fellowship	2019
UC Berkeley Center for Latin American Studies travel grant	2019
USAID Global Development Fellow	2018
Tinker Foundation Latin America Travel Grant	2018
Center for Global Public Health Summer Research Fellow 2016,	, 2018
Block Grant for highest GPA in Master's program	2017
UC Berkeley School of Public Health Alumni Association Award	2017
Foreign Language and Area Studies Summer Fellow	2016
McGill University Dean's Honor List for GPA in top $10\%$ of students	2013

# **SERVICE**

Mentor, Getting into Grad School, UCB Office for Graduate Diversity
Mentor, Undergraduate Research Apprentice Program at UC Berkeley
Health Policy Graduate Admissions Committee
Member, Economists for Equity at UC Berkeley
2019-2022
2019-2022
2019-2022

# OTHER

Languages: R, Stata, French, Spanish Citizenship: United States and Canada

Last updated: February 14, 2022