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HARVARD UNIVERSITY

Harvard Ph.D. Program in Health Policy
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Education

Harvard University

Ph.D. Health Policy (Economics Track), 2020 to 2026 (expected)

Duke University

B.A. Public Policy Studies, *magna cum laude*, 2017

Fields

Health Economics
Public Economics
Labor Economics

References

Professor David Cutler (co-chair)
Harvard University
Department of Economics
dcutler@fas.harvard.edu

Professor Tim Layton (co-chair)
University of Virginia
Batten School of Leadership and Public Policy
timothyjlayton@virginia.edu

Professor Amitabh Chandra
Harvard Business School
Harvard Kennedy School
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Professor Marcella Alsan
Stanford University
Department of Economics
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Fellowships & Awards

Harvard University Dissertation Completion Fellowship, 2025-2026
NBER Pre-Doctoral Fellowship in Aging and Health Research, 2024-2025
Harvard Graduate School of Arts and Sciences Merit Fellowship, Spring 2024
Harvard Kennedy School Dean's Award for Excellence in Student Teaching, Spring 2022
Ph.D. Student Travel Grant, Becker Friedman Institute, University of Chicago, Spring 2022
National Science Foundation Graduate Research Fellowship, Honorable Mention, 2022
Phi Beta Kappa, 2018

Teaching

United States Health Care Policy, Harvard Kennedy School
Teaching Fellow for Amitabh Chandra, Spring 2022, 2023
Dean's Award for Excellence in Student Teaching (2022)

Essentials of the Profession I, Harvard Medical School
Health Policy Teaching Fellow for Zirui Song, Adam Schaeffer, Winter 2023, 2024

Introduction to Research Methods, Harvard Ph.D. Program in Health Policy
Instructor, Fall 2024, 2025
Half day seminar for incoming doctoral students

Research

Graduate Research Assistant, National Bureau of Economic Research, David Cutler, 2021-2025

Graduate Research Assistant, Harvard Medical School Department of Health Care Policy, Tim Layton, 2021-2024

Research Assistant & Research Analyst, The Urban Institute, 2019-2020

Research Assistant, Duke University Center for Child and Family Policy, Sarah Komisarow, 2017-2020

Research Assistant, RTI International Public Health Economics Program, 2017-2019

Job Market Paper “Adverse Selection and Technological Change: Evidence from Medicare Part D”

New medical technologies are increasingly expensive. High-cost innovations make generous health insurance coverage more valuable for individuals at risk of needing new therapies. However, if those individuals are also costlier to insure, innovation may generate adverse selection. I develop a conceptual framework to study this trade-off and examine it empirically using data from Medicare Part D, the prescription drug insurance program for the elderly. I first provide evidence that an innovation shock driven by high-cost new drug approvals in the mid-2010s generated adverse selection against more generous Part D plans providing additional coverage for those drugs in the ‘donut hole,’ increasing average costs for such plans by 35%. In the years following the shock, the market exhibits hallmark patterns of dynamic adverse selection, as switchers into generous coverage are high-cost and more likely to use new drugs. In response to these patterns, premiums rise by 52%, driving out low-cost enrollees, and the market partially unravels, as the market share for the generous plans falls by 50%. I use a structural model of plan choice to decompose these changes in selection and estimate the welfare costs of this unraveling. Approximately 85% of the increase in selection is driven by two forces: increases in willingness-to-pay for generous coverage among those with high costs at baseline (standard adverse selection) and increases in willingness-to-pay among those whose costs increase substantially (selection on moral hazard). These results underscore the potential for technological change to unravel insurance markets and highlight the need for policies that stabilize these markets as high-cost new medical technologies continue to proliferate.

Publications “Racial health disparities in the United States.” *Oxford Review of Economic Policy*, 2024, 40(3): 498-517. (with Marcella Alsan and Katherine Ianni)

Disparities between Black and White Americans in health care coverage and health outcomes are pervasive in the United States. In this paper, we describe the evolution of the market-based approach to health insurance and health care delivery in the United States and its implications for racial disparities. First, we discuss the history of the United States’ predominantly private health insurance system. Second, we illustrate the persistence and pervasiveness of disparities through three present-day epidemics: maternal mortality, opioid use, and Covid-19. Through the epidemic case studies, we highlight the systemic roots of racial inequality in health care. Finally, we conclude with a brief discussion of potential policy approaches for reducing disparities in the health care system.

Working Papers “The Geography of Health Disparities” (with Tim Layton)

Racial disparities in access to medical care are pervasive in the United States. We combine a simple model of healthcare utilization with empirical methods for estimating causal place effects to study the role of geography in driving these disparities. First, we show that the national Black-White access disparity in a given year can be decomposed into person and place components. We present two such decompositions, one where we assume that place effects are homogeneous and one where we allow for race-specific place effects (‘place-by-race’ effects). We then estimate these two decompositions using Medicare claims data from 2008-2018 and a mover design that leverages beneficiary migration across areas to estimate causal place effects. When place effects are assumed to be homogeneous, place matters very little for disparities. However, when place effects can vary by race, place matters enormously. Crucially, this ‘place-by-race’ component is driven almost entirely by the fact that Black and White beneficiaries face very different, largely uncorrelated place effects in a given area, not because of differences in geographic sorting by race. Using a series of empirical exercises, we demonstrate the importance of these different place

effects for access to medical care and the potential of different classes of policies to close disparities. We also show that our results are not driven by differential noise in our Black place effect estimates and hold for various levels of geographic granularity. Ultimately, our results suggest that while place-based policies are unlikely to close access disparities, more-targeted place-by-race-based policies are a promising path toward improving racial equity in utilization of healthcare services.

“Pollution, Education, and their Genetic Interactions: Sources of Cognitive Improvements in the US Elderly Population” (with David Cutler)

The age-sex adjusted prevalence of dementia in the United States has declined by more than 30% since 2000. However, the underlying sources of this cognitive improvement remain unclear. We examine this decline, focusing on two commonly hypothesized contributors to cognitive function: declining air pollution and rising education. Using the Health and Retirement Study (HRS) and quasi-experimental designs, we assess the importance of each for improvements in cognitive function since 2000. To form exogenous measures of exposure to small particulate matter (PM_{2.5}), we consider large, exogenous changes in power plant emissions. We instrument for educational attainment by digitizing historical data on the timing of university openings across states. We find that both pollution and education affect cognition. These effects grow monotonically with age but show no systematic pattern by individuals’ genetic predisposition for Alzheimer’s disease. Pollution reductions and increased educational attainment together can more than fully explain the reduction in dementia prevalence over time.

“Changes in Years Lived with Dementia, 2000-2016” (with David Cutler)

Rising life expectancy in the U.S. has focused considerable attention on the possibility of widespread increases in the population with Alzheimer’s disease and related dementias (ADRD). At the same time, however, the age-sex-adjusted prevalence of ADRD fell by more than 30% from 2000-2016. These patterns have competing implications for the evolution of years lived with dementia. In this paper, we combine data on dementia prevalence from the Health and Retirement Study (HRS) with life table data from the National Center for Health Statistics (NCHS) to estimate changes in dementia and dementia-free life expectancy at 65. From 2000-2016, total life expectancy at age 65 for the average American increased by approximately 1.6 years. Nearly all of this increase was driven by increases in dementia-free life years; we find substantively small and statistically insignificant changes in life expectancy with dementia at 65 since 2000. Both patterns persist across all racial and ethnic subgroups that we study. Our results indicate that as Americans are living longer, the additional years are cognitively healthy.

Seminars & Conferences

2025: Harvard Economics Department Labor/Public PhD Seminar; NBER Summer Institute (Aging Workshop); American Society of Health Economists Annual Conference; Harvard Medical School Program on Regulation, Therapeutics, and Law; American-European Health Economics Study Group; NBER Trends and Patterns in Health Disparities; Harvard PhD Student Seminar in Health Economics; Harvard Kennedy School Economics and Social Policy PhD Seminar

2024: Harvard Economics of Health Equity Seminar; University of Washington School of Pharmacy PHEnOM Seminar; Harvard PhD Student Seminar in Health Economics; Harvard PhD Student Seminar in Health Policy

2023: Harvard PhD Student Seminar in Health Economics (x2); Innovations and State of the Art in Alzheimer’s and Dementia; American Society of Health Economists Annual Conference (x2); Harvard PhD Student Seminar in Health Policy; Harvard Economics of Health Equity Seminar

Languages

English (native); Spanish (intermediate)

Software skills

Stata; R (intermediate); Python (beginner)