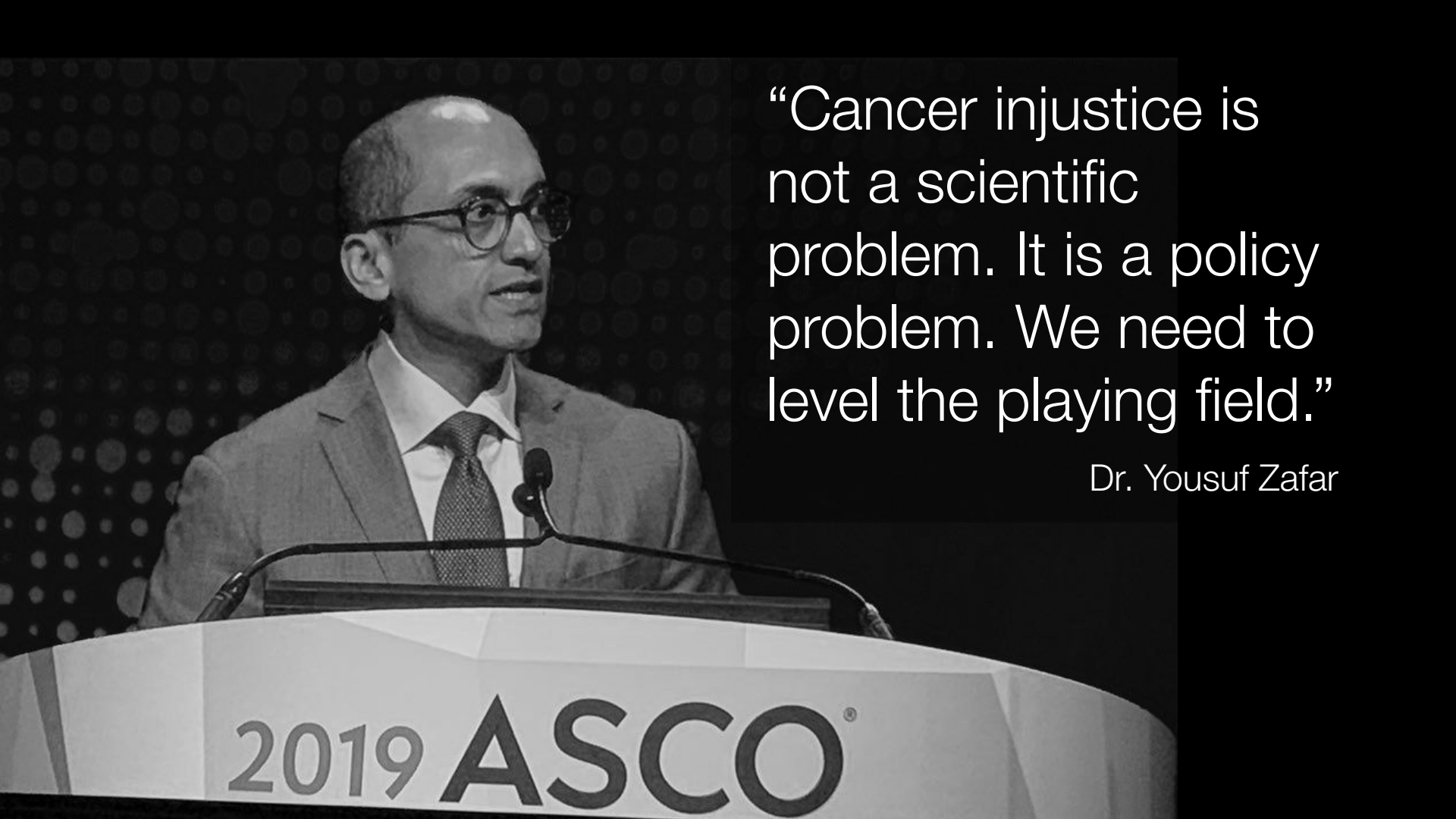


Advanced methods for cancer policy research using big data

Blythe Adamson, PhD, MPH

Senior Quantitative Scientist, Flatiron Health

National Cancer Policy Forum Workshop | 28 Oct 2019

A black and white photograph of Dr. Yousuf Zafar, a man with glasses, wearing a suit and tie, speaking at a podium. The podium features the text "2019 ASCO®". To the right of the speaker, a quote is displayed in white text on a dark background.

“Cancer injustice is not a scientific problem. It is a policy problem. We need to level the playing field.”

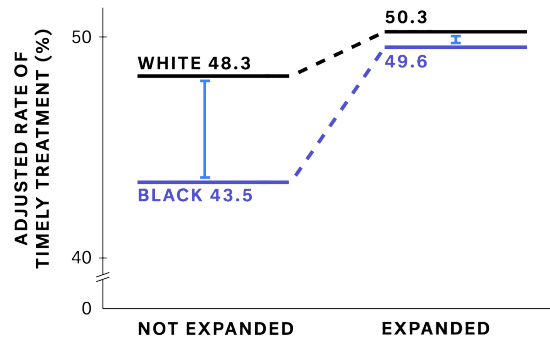
Dr. Yousuf Zafar

2019 ASCO®

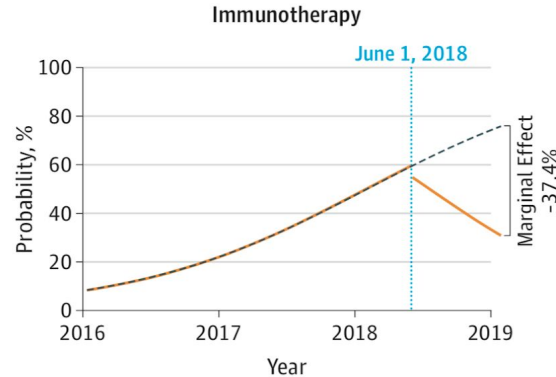
How can we use rich data sources
to test the effect of healthcare
policies?

Case studies of analytic methods to evaluate healthcare policy with real world data

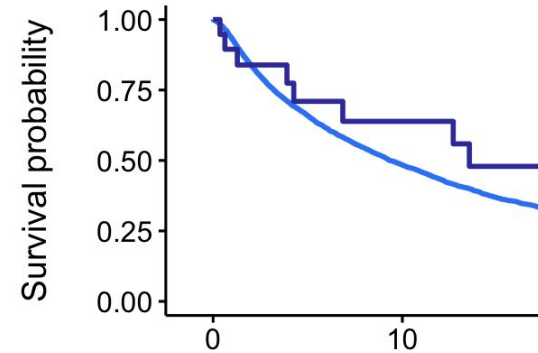
Difference-in-Differences



Interrupted Time Series



Natural Language Processing



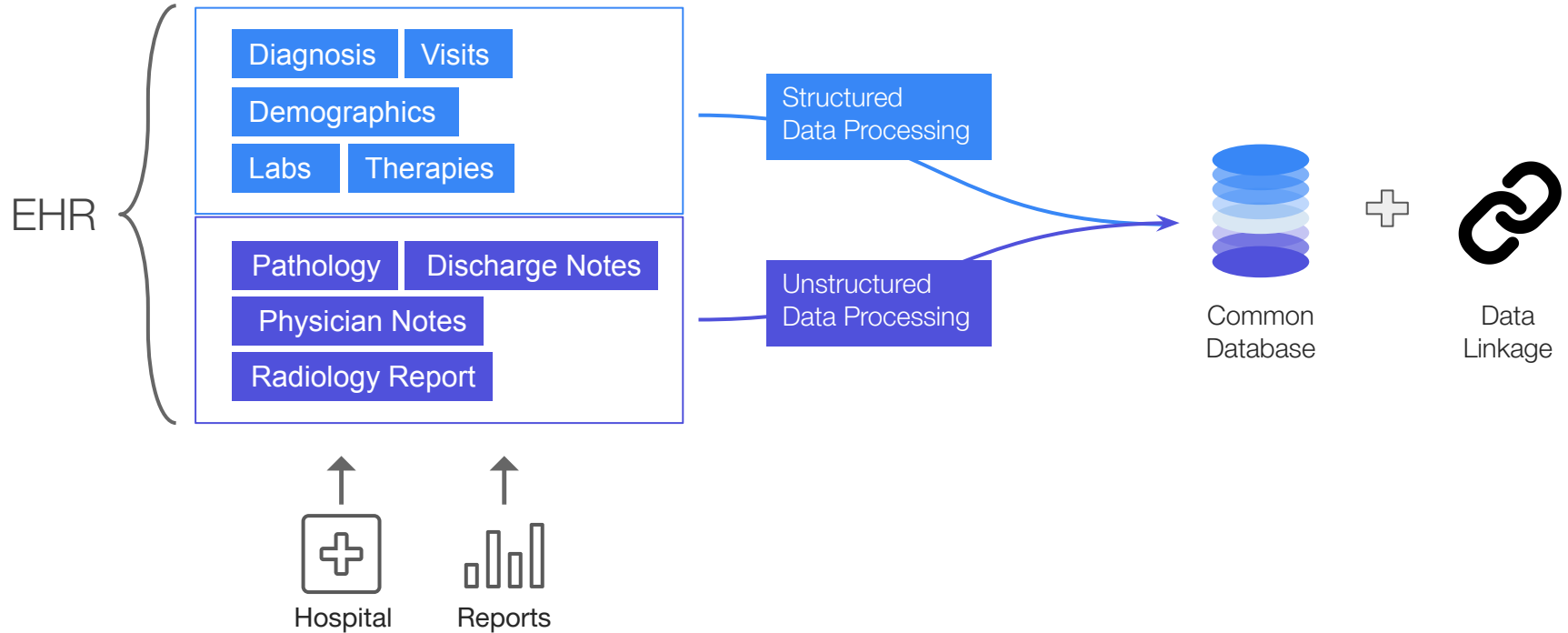
Flatiron + Yale Case Study 1

Racial disparities in
timely treatment of
advanced cancer

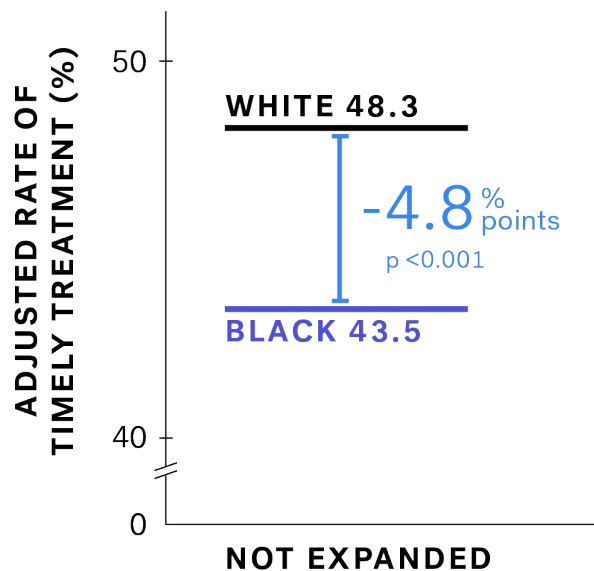
Hypothesis: ACA Medicaid
expansion **reduced disparity**
in timely treatment of black
patients compared to white
patients with advanced cancer



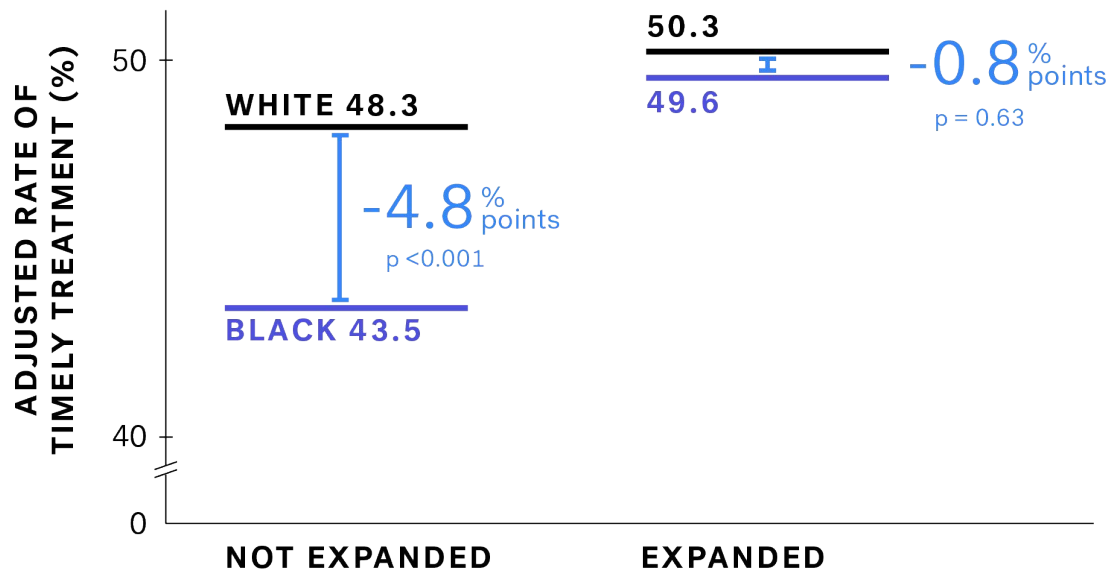
Data linkage to fill gaps



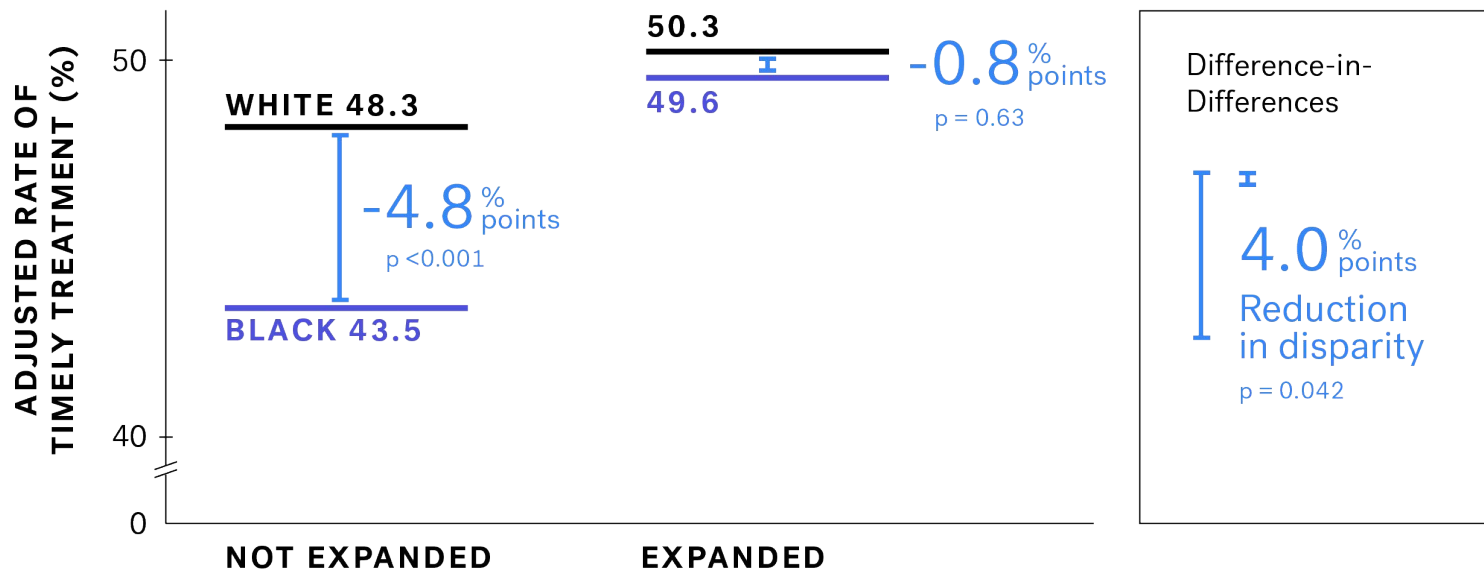
Medicaid expansion associated with reduction in racial disparities in timely treatment of advanced cancer



Medicaid expansion associated with reduction in racial disparities in timely treatment of advanced cancer



Medicaid expansion associated with reduction in racial disparities in timely treatment of advanced cancer





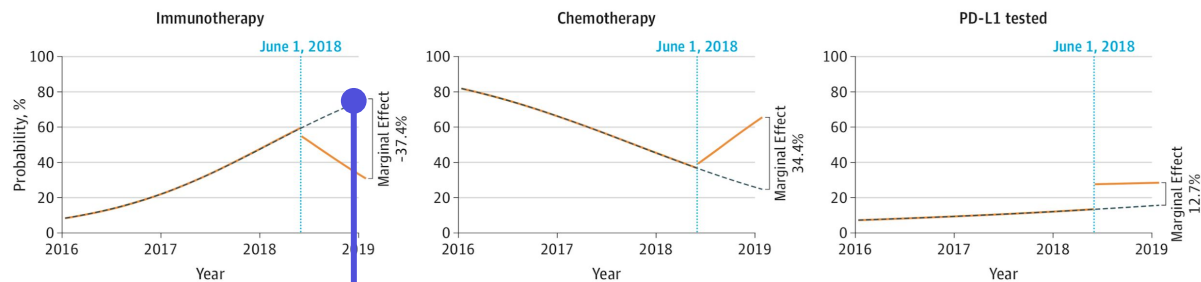
FDA Alerts Health Care Professionals and Oncology Clinical Investigators about an Efficacy Issue Identified in Clinical Trials for Some Patients Taking Keytruda (pembrolizumab) or Tecentriq (atezolizumab) as Monotherapy to Treat Urothelial Cancer with Low Expression of PD-L1

Flatiron + FDA + UPenn Case Study 2

Association Between FDA Label Restriction and Immunotherapy and Chemotherapy Use in Bladder Cancer

Parikh et al. *JAMA*, 2019

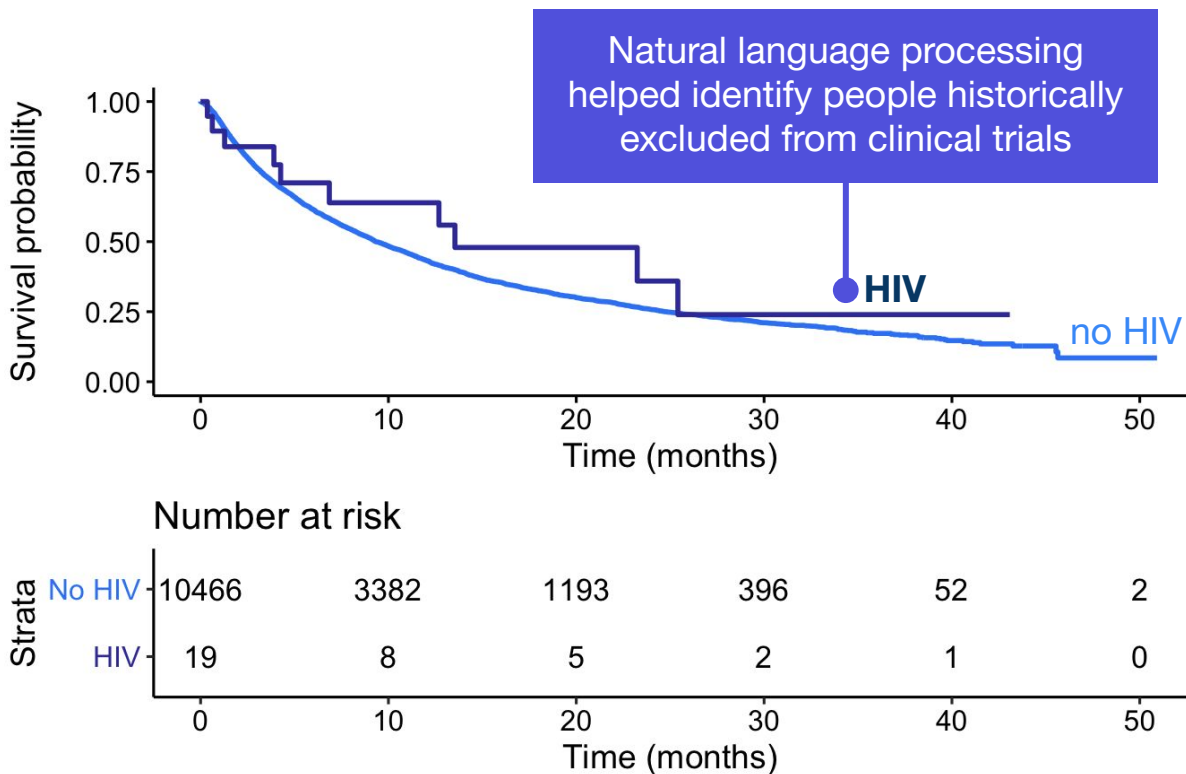
Figure 2. Interrupted Time-Series Models of Immunotherapy, Chemotherapy, and PD-L1 Testing Use



Interrupted time series regression helped predict the counterfactual - What would have happened without this policy?

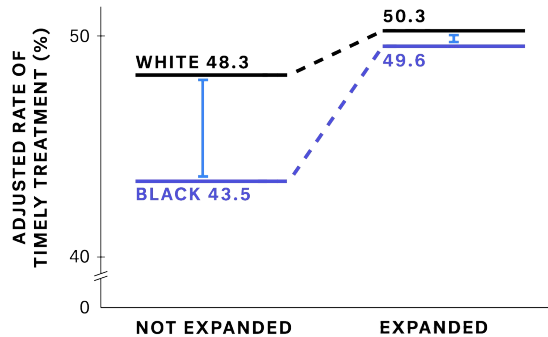
Flatiron + Fred Hutch Case Study 3

Effectiveness of
checkpoint inhibitors
among lung cancer
patients living with HIV
compared to no HIV

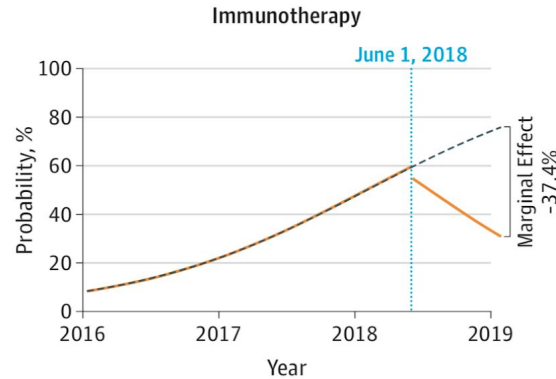


Analytic methods used to test hypotheses and inform healthcare policy design with real world data

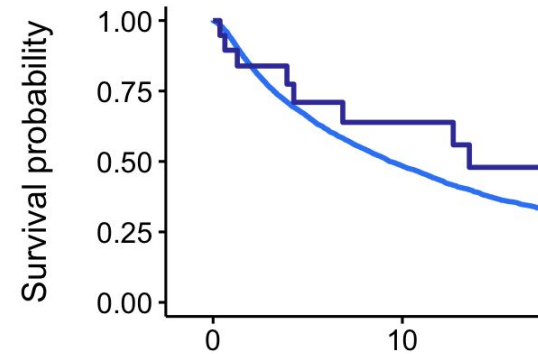
Difference-in-Differences



Interrupted Time Series



Natural Language Processing



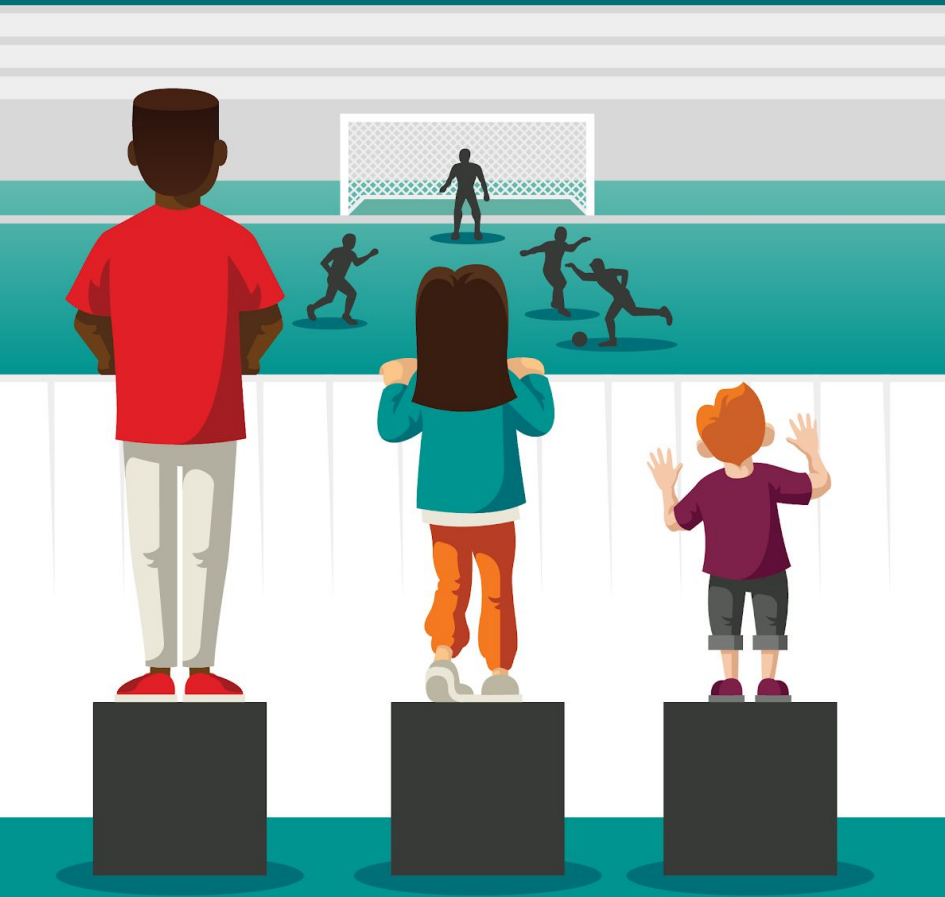
Thank You

CONTACT INFO

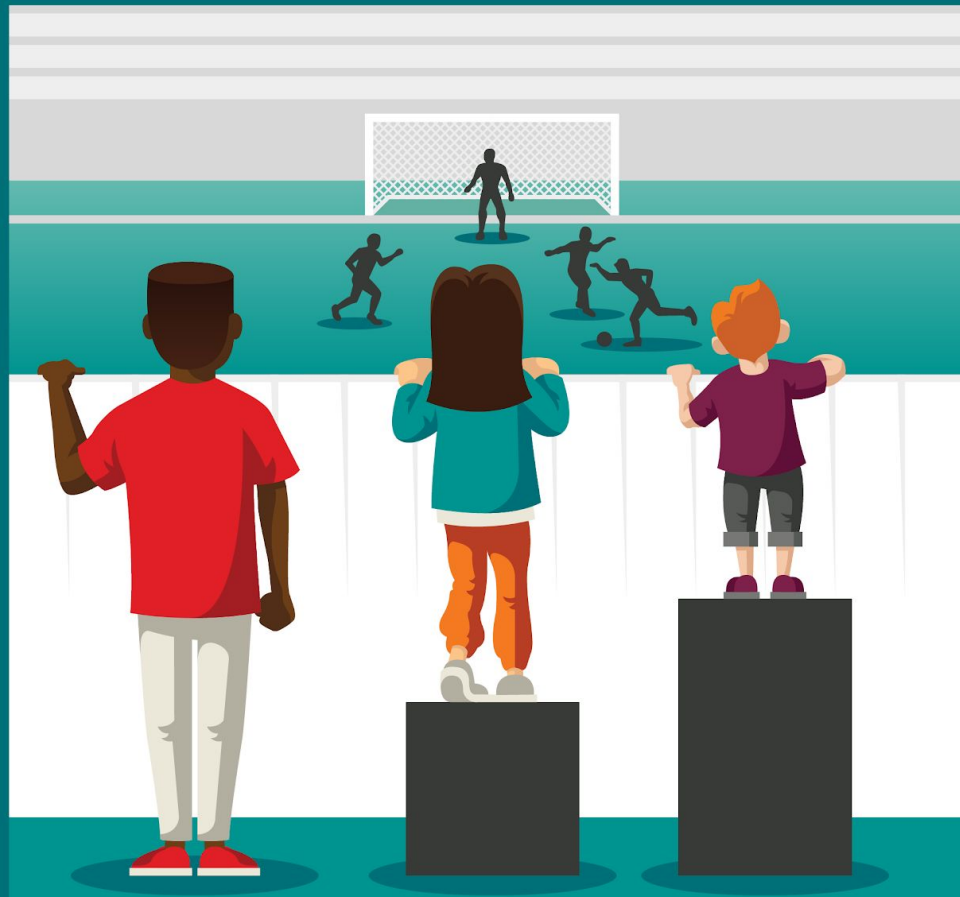
badamson@flatiron.com

[@DrBlytheAdamson](https://twitter.com/DrBlytheAdamson)

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EQUALITY



EQUITY