



# EVIDENCE WRAP-UP: USING RANDOMIZED EVALUATIONS TO EVALUATE US HEALTH CARE DELIVERY

This publication describes some of the randomized evaluations supported by J-PAL North America's US Health Care Delivery Initiative (HCDI) to date, as well as evaluations conducted by J-PAL affiliated researchers. This document was prepared by J-PAL North America. It is not an exhaustive review of all the rigorous evidence on this topic.

*Last updated June 2024.*

## OVERVIEW AND POLICY ISSUES

Health care delivery shapes the quality of everyone's life in the United States, yet in many ways it is inefficient, ineffective, and inequitable. On average, the United States spends more than twice as much per person on health compared to other wealthy countries.<sup>1</sup> There are often stark disparities in health outcomes and health care access related to factors like a person's income or race.<sup>2</sup> Health care leaders run innovative programs and implement new policies to address these challenges every day. However, the effects of many of these policies and programs are unknown, making it challenging for decision-makers to determine which interventions truly improve health outcomes.

Randomized evaluations can assess the effectiveness of health care policies and programs, but decision-makers rarely use them systematically to inform their actions. A randomized evaluation is a type of impact evaluation that uses random assignment to allocate resources, run programs, or apply policies as part of the study design. Well-conducted random assignment ensures that there are, on average, no systematic differences between those who receive the program and those who do not. Random assignment can, therefore, produce accurate (unbiased) results about the program's effect. Randomized evaluations are routinely used to test new medical innovations, particularly new medications; yet across top journals in medicine, health services research, and economics, less than twenty percent of studies of interventions in US health care delivery conducted between 2009 and 2013 were randomized. By contrast, in top medical journals, about eighty percent of studies of US medical innovations were randomized.<sup>3</sup>

Randomized evaluations in health care delivery can have enormous influence due to the design's simplicity, transparency, and credibility. One example is the 2008 Oregon Health Insurance Experiment, which was the first randomized evaluation of the impact of Medicaid.<sup>4</sup> The study found that, for low-income adults, Medicaid increased the use of health care services, decreased financial strain, improved self-reported health, reduced depression, and increased total health care spending

by about 25 percent. However, Medicaid had no detectable effect on physical health outcomes, employment, or earnings. Numerous front-page, high-profile articles and opinion pieces featured the results, which also served as the primary input into several government reports on the impact of expanding Medicaid under the Affordable Care Act.<sup>5</sup>

The Oregon Health Insurance Experiment's influence and the dearth of randomized evaluations in US health care delivery helped catalyze the 2013 launch of J-PAL North America's US Healthcare Delivery Initiative (HC DI). To date, we have funded 46 randomized evaluations on US healthcare delivery. A complete, up-to-date list of all randomized evaluations funded by HC DI and associated publications can be found on our [website](#).

This publication features over a dozen examples of randomized evaluations HC DI has supported. It highlights studies from across the country that showcase the rigor and value of randomization in this field. The examples include a range of implementing partners—including government agencies, health care providers, and non-profits—and interventions that were randomized at the patient, physician, or metropolitan-area level. They also cover a broad spectrum of interventions, from low-cost outreach letters to market-wide Medicare payment reform.

These studies have produced clear, credible results on pressing US health care policy issues. Several yielded [null results](#), which are crucial to helping policymakers understand why a program is unable to meet its stated goal, and if they need to tweak their intervention or target population and evaluate a new approach. Other studies have found impacts not only on the direct recipients of the intervention but also on other groups. Such [spillover effects](#) provide critical insights into the broader systemic impact of policies and demonstrate the value of randomized evaluations in identifying them.

We hope that studies such as these inspire governments, insurers, employers, health care providers, and other practitioners to identify opportunities to use randomized evaluations and the evidence derived from them to improve health care delivery and people's lives.

---

<sup>1</sup> How does health spending in the U.S. compare to other countries? San Francisco, CA: Kaiser Family Foundation, January 2024. [https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/?\\_sf\\_s=health+spending#item-start](https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/?_sf_s=health+spending#item-start)

<sup>2</sup> Ndugga N and Artiga S. Disparities in Health and Health Care: 5 Key Questions and Answers. KFF, April 2023. <https://www.kff.org/racial-equity-and-health-policy/issue-brief/disparities-in-health-and-health-care-5-key-question-and-answers/>

Schiller JS, Lucas JW, Peregoy JA. Summary health statistics for U.S. adults: National Health Interview Survey, 2011. National Center for Health Statistics. *Vital Health Stat* 10(256). 2012. [https://www.cdc.gov/nchs/data/series/sr\\_10/sr10\\_256.pdf](https://www.cdc.gov/nchs/data/series/sr_10/sr10_256.pdf)

<sup>3</sup> Finkelstein A and Taubman S. Randomize evaluations to improve health care delivery. *Science*. 2015;347:6223:720-722. <https://doi.org/10.1126/science.aaa2362>

---

<sup>4</sup> Understanding Medicaid Expansion: The Effects of Insuring Low-Income Adults. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL), January 2023. <https://www.povertyactionlab.org/sites/default/files/publication/Understanding-Medicaid-Expansion-The-Effects-Of-Insuring-Low-Income-Adults.pdf>

<sup>5</sup> Finkelstein A and Taubman S. "Using Randomized Evaluations to Improve the Efficiency of US Healthcare Delivery." Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL), 2015. <https://www.povertyactionlab.org/review-paper/using-randomized-evaluations-improve-efficiency-us-healthcare-deliver>



Photo credit: Camden Coalition of Healthcare Providers

## SELECTED RANDOMIZED EVALUATIONS IN US HEALTH CARE DELIVERY

### EVALUATIONS WITH GOVERNMENT AGENCIES

#### I. State health insurance Marketplaces

The 2010 Patient Protection and Affordable Care Act (ACA) substantially expanded eligibility for free or heavily subsidized health insurance through Medicaid and regulated Marketplaces. Yet millions of Americans who are eligible for this coverage remain uninsured. Prior research suggests various barriers to take-up, including the complexity of choosing and applying for benefits, lack of awareness of options, and stigma associated with participation.

A [J-PAL policy insight](#) reviewed eleven randomized evaluations of efforts to increase health insurance take-up in the United States or to help individuals switch to plans that best met their needs. Overall, these studies found that informational nudges lead to small but meaningful increases in health insurance take-up (typically about five percentage points) and in helping individuals in the United States switch to plans that best meet their needs. For example:

- A 2013-2015 Oregon study demonstrated that improved communication and low-cost “nudges,” such as behaviorally informed postcards and automated telephone outreach, meaningfully increased Medicaid enrollment among likely eligible groups (Wright et al., 2017).
- A 2015-2016 California study sent enrollment reminder letters to individuals eligible for Covered California (the state Marketplace) who had not yet selected a plan. The study found that these letters increased households’ insurance take-up, especially among healthier individuals (Domurat et al., 2019).

- A 2015- 2016 Colorado study examined the impact of sending information about potential savings from switching insurance plans in the state Marketplace to enrolled households. It found that recipients were considerably more likely to shop for plans on the Marketplace website, but not more likely to switch plans (Ericson et al., 2017).
- A 2018-2021 Massachusetts study offered a prime example of designing research to compare the efficacy of alternative interventions. It evaluated the impact of generic reminder letters, personalized reminder letters, and a streamlined “check-the-box” enrollment intervention on enrollment in the Massachusetts Health Connector, the state-based health insurance marketplace. Researchers found that streamlined enrollment increased take-up more than the generic or personalized reminder letters, though the advantage of streamlined enrollment over personal reminder letters was limited to enrollees who qualified for plans with \$0 premiums after subsidy (Ericson et al., 2023).

The evidence from this collection of randomized evaluations indicates that nudges can reduce some—but not all—barriers to enrollment for individuals who can afford coverage. Given the modest increases in enrollment, the studies also indicate the need for more research on the impact of other types of interventions, such as comprehensive case management or automatic enrollment.

## II. Medicare payment reform

In 2011, Congress created the Center for Medicare and Medicaid Innovation (CMMI) to implement and evaluate new health care financing programs. Since then, it has launched about a half-dozen large-scale randomized evaluations of new Medicare payment models, highlighting the feasibility of governments conducting randomized evaluations of market-wide policies. Below are examples of several evaluations of these interventions conducted by J-PAL affiliated researchers to learn more about the impacts of these nationwide reforms.

One such payment reform was to Medicare's End-Stage Renal Disease program. In an attempt to increase the number of patients who receive home dialysis, which is cheaper and believed to be as or more effective than facility-based dialysis, CMMI designed a new reimbursement model that incentivized providers and facilities to provide home rather than facility-based dialysis and randomly assigned this new model to some parts of the country and not others. In the program's first year (2021), researchers found no statistically significant difference in home dialysis rates between hospital referral regions randomly assigned to the new model and those that used the old one (Ji et al., 2022).

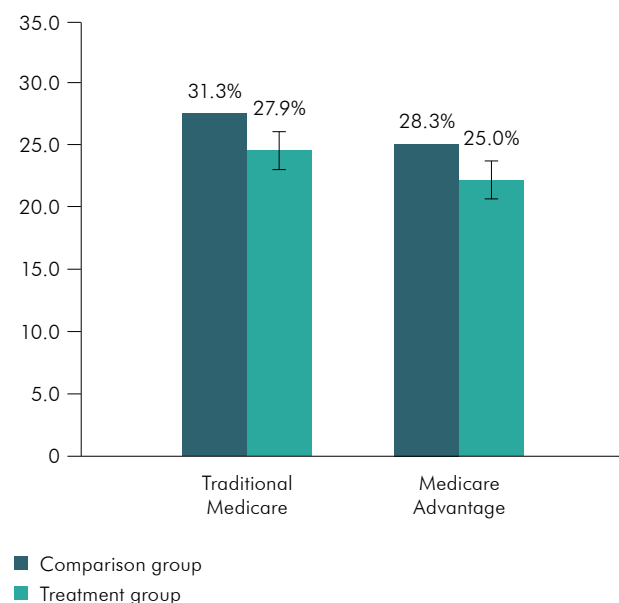
Another payment reform has been the introduction of bundled payments for medical care. In an attempt to improve quality and reduce spending, Medicare is shifting away from the traditional fee-for-service (FFS) payment model, which pays providers for each medical service delivered to patients. Bundled payments, a primary alternative payment model, consolidate all services for a specific episode of care into one payment. The goal is to incentivize providers to reduce unnecessary care and lower Medicare costs by paying them a fixed amount per patient, regardless of the services delivered. The concern, however, is that bundled payments could lead to under-provision of care, as providers will not be paid for providing more care, even when medically appropriate.

In April 2016, CMMI launched a five-year national randomized evaluation of the mandatory Comprehensive Care for Joint Replacement (CJR) bundled payment model for knee and hip replacements. It randomly assigned the new payment model to different parts of the country, leaving other areas under the status quo. Results from the first two years of this evaluation showed a modest reduction in health care utilization—primarily due to fewer discharges to post-acute care (PAC) facilities—with no evidence of any harm to the quality of care or changes in patient volume or composition. Moreover, the estimated reductions in Medicare spending were substantially smaller than those found by several prior observational studies of voluntary bundled payment models for Medicare hip and knee replacement, underscoring the importance of randomized evaluations (Finkelstein et al., 2018).

However, in response to ethical complaints made by some members of Congress, the Centers for Medicare and Medicaid Services (CMS) announced at the end of Year 2 that hospital participation in the last three years of the program would be voluntary for half of the MSAs in the intervention group. Approximately one-quarter of affected hospitals chose to opt in to the bundled payment model. Results from the program's voluntary participation phase showed that hospitals opting for bundled payments did so primarily because they had lower pre-existing spending levels, which enabled financial benefits without needing to change their behavior. Thus, the voluntary program produced smaller reductions in government spending than if the mandatory program had continued (Einav et al., 2021). These results highlight the importance of considering the incentives associated with voluntary models before implementation to ensure these programs benefit both patients and providers. They also showcase how evaluating a program under a mandatory, randomized model and a voluntary, non-randomized model can lead to different conclusions.

Finally, researchers studied the spillover effects of the mandatory participation bundled payment reform on privately insured Medicare Advantage (MA) patients who were not targeted by the reform. They discovered that the reform's spillover effects on non-targeted MA patients mirrored its direct effects on targeted Traditional Medicare (TM) patients (see Figure 1). Specifically, the policy reduced the share of targeted TM patients and non-targeted MA patients discharged to PAC facilities by the same magnitude (Einav et al., 2020). These results show how health care reforms intended for one patient group can also affect the care received by others.

**Figure 1.** Impact of CJR on patients discharged to institutional postacute care for Traditional Medicare (TM) and Medicare Advantage (MA) (percent)



Note: Error bars represent 95% confidence intervals.

### III. Government letters to reduce overprescribing

Overprescribing pharmaceutical drugs exposes patients to potentially unnecessary health risks, such as cognitive decline or even death, and increases health care costs. Evidence from various contexts suggests that letters can influence behavior, so one potential low-cost approach is to send letters to providers writing prescriptions at substantially higher rates than their peers.

Evidence from two randomized evaluations conducted in partnership with CMS suggests that sending well-designed letters can reduce overprescribing. In a 2014-2015 study, CMS sent a letter to a randomly selected half of 1,525 Medicare providers who prescribed Schedule II controlled substances, including opioid pain relievers like morphine, at exceedingly high rates.<sup>6</sup> The letter used text and graphics to show that the prescriber had supplied far more Schedule II controlled substances than their peers. There was no detectable difference in prescribing thirty and ninety days after the mailing (Sacarny et al., 2016).

Researchers then launched another study to test a new letter intervention based on the prior results. In this 2015-2017 randomized evaluation, CMS sent letters to a randomly selected half of 5,055 Medicare prescribers of the antipsychotic drug Seroquel identified for their high prescription rates. In this case, the new intervention involved CMS sending the letter multiple times rather than just once. Additionally, researchers modified the letter's framing to emphasize the physician's exceptionally high prescribing rates compared to in-state peers and to note that the physician was under CMS review. The more strongly worded peer comparison letters substantially reduced Seroquel prescribing for at least two years, with no evidence of adverse patient effects. Although the reductions were larger for potentially inappropriate prescribing to patients without FDA-approved indications, the letters also reduced appropriate prescribing to patients with FDA-approved indications (Sacarny et al., 2018).

These projects highlight how to leverage findings from any randomized evaluation —whether positive, negative, or null. After finding that the letters had no effect on Schedule II overprescription, the team built on further research to innovate and refine the letters sent to Seroquel prescribers, effectively reducing prescribing. Similar collaborations between researchers and policy implementers can help test, iterate, and improve health care delivery.

---

<sup>6</sup> Specifically, 2,527 prescribers were assigned to the treatment group and 2,528 were assigned to the comparison group.

## EVALUATIONS WITH HEALTH CARE PROVIDERS

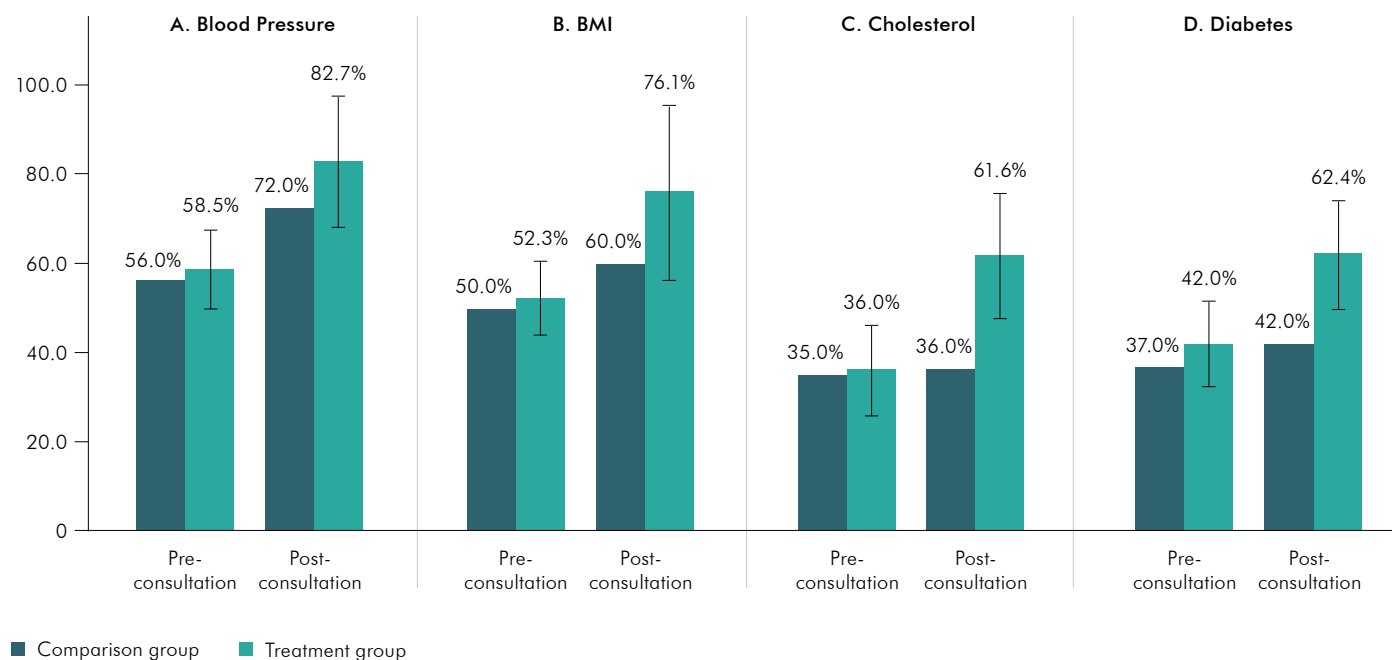
### IV. Physician-patient race concordance

On average, Black people in the United States live 70.8 years, while white people live 76.4 years. More than half of the difference in life expectancy for Black men can be attributed to preventable chronic conditions, suggesting that some of the disparity is due to inferior care or underutilization of preventive health care services. One common proposal to combat these disparities and advance health equity is to increase representation of Black providers in health professions. Currently, only 3.8 percent of physicians are Black, compared to 12.6 percent of the US population.

In a 2017-2018 study conducted at a clinic in Oakland, California, researchers found that Black men used substantially more preventive health services and especially opted for more invasive procedures when they saw a Black male doctor (see Figure 2). During the study's initial phase, researchers provided men with a tablet displaying a randomly assigned photo of a Black or non-Black (white or Asian) health care provider, and the men selected preventive services to receive from their selected provider. When presented with just a photo of their doctor, Black men chose to receive preventive services at the same rate regardless of the doctor's race. However, during face-to-face meetings with the doctor, where they could revise their decisions, Black men randomly assigned to see a Black doctor were significantly more likely to select every preventive service, especially invasive ones like a flu shot. The results suggest that better communication by the Black physicians, rather than their race alone, appears to have influenced the results (Alsan et al., 2019). These findings on a driver of health disparities have significant health and policy implications.

Researchers conducted another randomized evaluation to discern which communication aspects influence health behaviors. In a 2019-2021 study, researchers randomized Black and white men to view flu vaccination infomercials featuring either Black or white male actors. They found that nonexpert racially concordant actors were most effective at promoting flu vaccination; additionally, racial concordance positively influenced Black men's rating of the person and the message of the infomercial. Race concordance did not have an effect on ratings among white men (Alsan et al., 2024). These results add to our understanding of improving vaccination rates and reducing health inequities.

**Figure 2.** Demand for preventives (percent)



Note: Error bars represent 95% confidence intervals. Pre- and post-consultation selection for preventives by randomized doctor race.

## EVALUATIONS WITH NONPROFITS AND PRIVATE SECTOR ORGANIZATIONS

### V. Medical Debt Relief

Medical debt may be a significant burden for many Americans, yet it is unclear how much it affects people’s well-being. There are multiple drivers of medical debt in the United States, including a large uninsured population, high health care costs, and inadequate health insurance plans that provide few benefits and high levels of cost-sharing. Medical debt disproportionately burdens uninsured, low-income, Black, and Latino/a households. In a 2018-2023 randomized evaluation, researchers assessed the impact of a medical debt relief program that buys and relieves a portion of individuals’ medical debt on measures of mental and physical health, health care utilization, and financial well-being—including financial distress, credit score, debt balances, and repayment behavior.

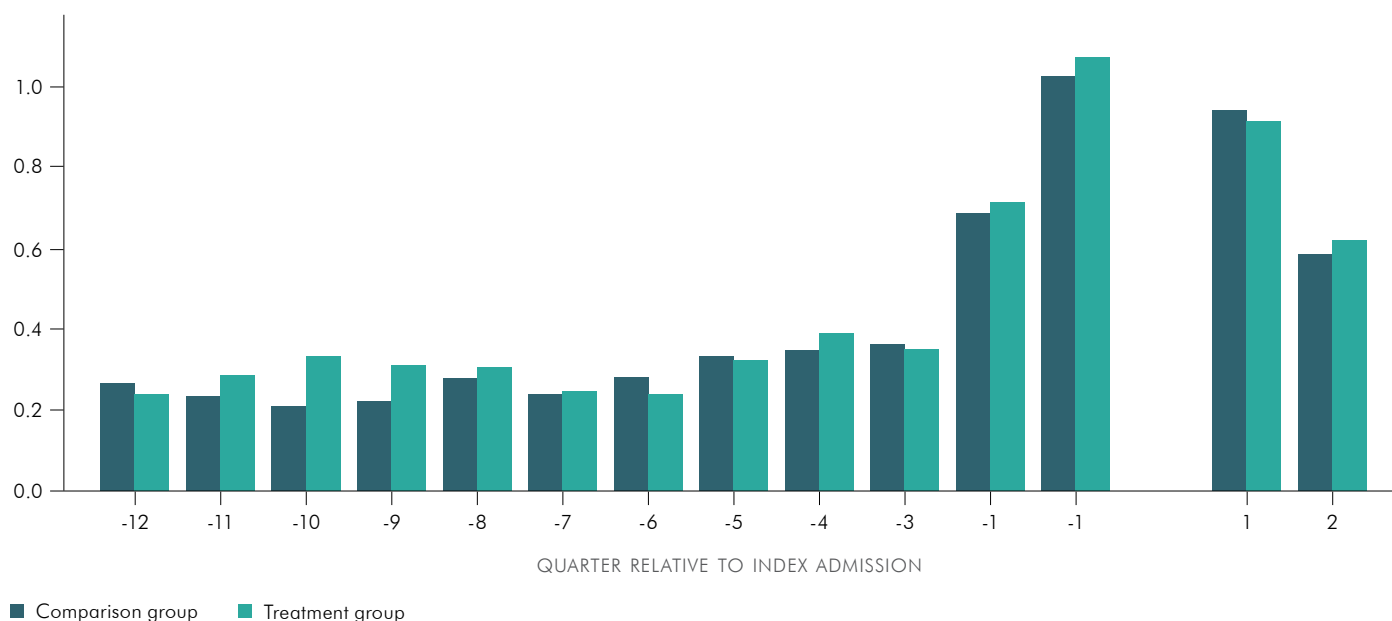
Individuals randomized to receive debt relief saw no improvements in health and financial outcomes compared to the comparison group. Debt relief did not affect outcomes measured on credit reports and led to a modest, statistically significant increase in medical bill non-payment, primarily due to lower repayment of bills incurred for medical services received before debt relief rather than changes in health care utilization. Certain subgroups—individuals with larger amounts of debt eligible for relief and those informed of their debt relief—scored lower on mental health assessments (Kluender et al., 2024). These results affirm that medical debt relief alone does not address the harms associated with high health care costs in the United States.

### VI. Hotspotting to Support High-Need, High-Cost Patients

Health care spending in the United States is heavily concentrated. Five percent of the population accounts for fifty percent of annual expenditures; one percent accounts for almost one-quarter of yearly spending. This disparity has generated interest in reducing costs and improving the quality of care delivery through interventions targeting patients with very high use of health care services. There are several promising observational studies of interventions targeting these high-need, high-cost patients.

In a 2014-2024 study, researchers evaluated the impact of the Camden Coalition of Healthcare Providers’ Core Model, a well-known care transition program offering intensive, time-limited assistance to high-need, high-cost patients within the health care system. Researchers found no impact on the rate of six-month hospital readmission. There was also no impact on readmissions over shorter (one month) or longer (one year) time frames or on mortality (see Figure 3) (Finkelstein et al., 2020). These results suggest challenges in reducing hospital readmission rates for a medically and socially complex patient population with very high health care utilization rates.

**Figure 3.** Average number of inpatient admission per quarter



Note: All data are from hospital discharge data and cover the analysis sample of 782 patients. Treatment data are from 393 patients, and control data are from 389 patients. Quarter 1 begins with the discharge date from the index admission, whereas quarter -1 is the quarter ending the day before the index admission. The index admission is excluded from the figure.

The results also highlight the crucial role of randomized evaluations in assessing interventions aimed at patients with high health care utilization. Although these results show no impact on hospital readmission rates, an observational study comparing readmission rates within the intervention group before and after participating would have suggested substantial reductions in readmissions. This apparent decrease often occurs because of regression to the mean—the tendency for patients selected as exceptionally high-cost patients at a moment in time to naturally move closer to average cost over time. This study illustrates how regression to the mean can produce misleading estimates of program effectiveness, underscoring the importance of randomized evaluations.

The study also raised the important question of why this highly-regarded program did not reduce hospital readmissions as intended. Researchers, therefore, conducted a follow-up analysis to explore two very distinct hypotheses: whether the program faced implementation challenges in connecting patients to timely office-based care or whether such connections were insufficient to decrease hospital admissions. They found that although many participants did not receive post-discharge appointments, the intervention substantially increased ambulatory visits, and the effect persisted over time (Finkelstein et al., 2023). The results suggest that care coordination programs on their own, even when implemented as intended, are not enough to reduce hospitalizations for patients with complex needs and extremely high health care utilization.

## VII. Nurse Home Visiting Programs

There is growing policy interest in addressing the challenges low-income families face during their children’s early years, with a recognition that effective policies and interventions may need to address maternal and child wellbeing in tandem. Intensive home visiting programs are one strategy intended to improve maternal and newborn outcomes.

Previous evaluations of nurse home visiting programs have portrayed a mixed and nuanced story of impacts. Some randomized evaluations and observational studies suggest improvements in mental well-being and stress, future employment and education outcomes for participating families, and certain birth outcomes for some groups of mothers. However, other randomized evaluations have shown more limited evidence of impact in these outcomes.

Researchers conducted a randomized evaluation, which began in 2016 and is still ongoing, to measure the impact of a nurse home visiting program on pregnancy and birth outcomes, child health and development, and family planning and birth spacing among low-income mothers in South Carolina. To date they have found that the program had no effect on the primary composite outcome of adverse birth events, which includes preterm birth, low birthweight, small-for-gestational-age birthweight, or perinatal mortality (McConnell et al., 2022).

It also did not affect the potential drivers of birth outcomes studied, such as prenatal care utilization and quality (Gourevitch et al., 2023). Researchers are still evaluating the overall impact of this intervention. Future analyses will examine the program's effect on birth spacing and child injuries, as well as early childhood health and development outcomes, use of social services, and long-term impacts on various outcomes.

### VIII. Workplace wellness programs

In 2018, more than 80 percent of large firms and half of small employers in the United States offered a wellness program to their employees. Although the specific components vary widely, workplace wellness programs often include biometric screenings, health risk assessments, and promoting wellness activities such as smoking cessation and physical activity. These programs aim to foster healthy behaviors, reduce medical spending, increase work productivity, and improve well-being.

Randomized evaluations of two workplace wellness programs found limited impact on employees' health habits—such as self-reported regular exercise and weight management—and no impact on health, health care spending, and utilization, or employment outcomes like absenteeism or productivity. One randomized evaluation was conducted at a university, randomizing at the individual employee level between 2016-2018 (Reif et al., 2020), while the other took place at a large private-sector employer, randomizing at the worksite level between 2014-2017 (Song et al., 2019). Both programs share common features with most wellness programs in the United States today. These results run counter to prior observational studies, which found substantial positive associations between wellness program participation and employee health by comparing employees who participated in such programs to those who did not. The evidence from the randomized evaluations also suggests why the observational studies show different results: employees who tend to participate in workplace wellness programs tend to be in better health and have better health habits than those who do not. These evaluations call into question whether the programs achieved what policymakers intended and demonstrate the value of RCTs in identifying the returns to investment on large-scale policies.

### IX. Influencing Health Behaviors

Encouraging healthy behaviors can be a crucial way to improve people's well-being, reduce disease incidence, and lower health care costs. However, individual and structural obstacles can often impede the ability to engage in healthy behaviors. J-PAL affiliated researchers have conducted several randomized evaluations of programs to overcome these obstacles and promote healthy behaviors related to diet, smoking, and vaccine uptake.

A 2019-2022 study evaluated the impact of an intensive food-as-medicine program, which provides fresh food and diabetes education, on health and health care utilization for individuals experiencing both diabetes and food insecurity. People experiencing poverty are more prone to food insecurity. They are often led to purchase cheaper, less nutritious foods, which heightens their susceptibility to and complicates the management of diet-related diseases like diabetes. Despite the acknowledged link between lack of access to nutritious foods and diabetes, there is little rigorous evidence on the impact of increasing access to high-quality, nutritious foods among low-income individuals with diabetes.

In this study, researchers found that patients randomly assigned to the food-as-medicine program were highly engaged with the program and reported greater improvements in diet than comparison group participants. However, there were no significant differences in biometric outcomes between patients in the intervention and comparison group, with both groups seeing declines in HbA1c levels—a measure of diabetes management that measures average blood sugar levels over three months. Similar to the hotspotting evaluation discussed in the prior section, this study underscores the importance of randomized evaluations in distinguishing program impacts from regression to the mean. Although this evaluation found no difference between groups, a study only measuring participants' HbA1c levels before and after the program would have suggested a reduction in these levels. It is unclear why the comparison group also saw a reduction in HbA1c levels, as the researchers did not observe increased health care utilization or use of other nutrition services offered by the health care system during the study period.

One potential explanation for the finding is that, in an integrated health care system where patients are followed regularly, patients with high HbA1C levels could see improved diabetes management without an intensive food-as-medicine program (Doyle et al., 2024).

Another study conducted between 2015-2017 examined the impact of financial incentives and deposit contracts on smoking cessation among low-income individuals who smoke. While smoking rates have greatly declined in the United States, they remain disproportionately high among low-income populations, leading to elevated rates of chronic smoking-related diseases. In this study, researchers found no statistically significant differences in quit rates between any of the intervention arms and the comparison group, although the sample size was small and thus estimates imprecise (Anderson et al., 2021).





Photo credit: Shutterstock.com

Finally, several studies conducted during the Covid-19 pandemic explored how to promote preventive health behaviors. In 2020, J-PAL affiliated researchers conducted a randomized evaluation of a Facebook advertising campaign featuring videos of health professionals encouraging people not to travel during the Thanksgiving and Christmas holidays. The campaign reached approximately 12 million users during Thanksgiving and 23 million during Christmas. Researchers found that the videos significantly decreased traveled distance and subsequently reduced Covid-19 infection rates (Breza et al., 2021).

The researchers then conducted another randomized evaluation of various strategies to encourage Covid-19 vaccine take up. Conducted in December 2021 and January 2022, the evaluation showed that social media videos featuring health professionals failed to influence the decision to get immunized against Covid-19, regardless of whether they were targeted to those not yet vaccinated or to those who were convinced of the benefits of vaccination and were tasked to convince others (Ho et al., 2023). This result contrasts with the research team's earlier finding that light touch campaigns can influence health behaviors, suggesting that certain health behaviors may be more or less susceptible to influence or that health-related opinions may shift over time, becoming more resistant to change.

## CONCLUSIONS

Historically, US health care delivery RCTs have been rare, but they do not have to be. In fact, they appear to be gaining momentum among academic researchers, health care systems, and government agencies. When feasible and ethical, randomized evaluations can provide credible insights into ways to improve health care delivery.

The randomized evaluations in this publication only scratch the surface of potential new models for health care delivery and policy. Many energetic people and organizations are leading the charge to create innovative health care delivery models that meet patients' needs more effectively, efficiently, and equitably. Rigorous evaluation of these efforts is essential. Governments, insurers, employers, and health care providers can seize the opportunity to use randomized evaluations to improve US health care delivery and people's lives.

## REFERENCES

Studies with an “\*” indicate studies that J-PAL North America’s US Health Care Delivery Initiative supported.

Studies with a “+” indicate other studies by researchers affiliated with J-PAL North America.

### State health insurance marketplaces

- + Baicker, Katherine, Ginny Garcia-Alexander, Margarette A. Weller, and Bill J. Wright. 2017. “Low-Cost Behavioral Nudges Increase Medicaid Take-Up Among Eligible Residents Of Oregon.” *Health Affairs* vol. 36 no. 5 838-845.
- \* Domurat, Richard, Isaac Menashe, and Wesley Yin. 2019. “The Role of Behavioral Frictions in Health Insurance Marketplace Enrollment and Risk: Evidence From a Field Experiment.” NBER Working Paper. 26153. <https://www.nber.org/papers/w26153.pdf>
- \* Ericson, Keith M. Marzilli, Jon Kingsdale, Tim Layton, and Adam Sacarny. 2017. “Nudging leads consumers in Colorado to shop but not switch ACA Marketplace plans.” *Health Affairs* 36(2): 311-319.
- \* Ericson Keith Marzilli, Timothy Layton, Adrianna McIntyre, and Adam Sacarny. 2023. “Reducing Administrative Barriers Increases Take-up of Subsidized Health Insurance Coverage: Evidence from a Field Experiment.” NBER Working Paper. <https://www.nber.org/papers/w30885>.
- \* Improving Consumer Choices on Health Insurance Marketplaces in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/improving-consumer-choices-health-insurance-marketplaces-united-states>
- \* Information to Increase Insurance Take-up and Reduce Market Risk in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/information-increase-insurance-take-and-reduce-market-risk-united-states>
- + Kling, Jeffrey R., Sendhil Mullainathan, Eldar Shafir, Lee C. Vermeulen, and Marian V. Wrobel. 2012. “Comparison Friction: Experimental Evidence from Medicare Drug Plans.” *The Quarterly Journal of Economics* 127:199-235.
- + Nudges and Improved Communication to Encourage Medicaid Take-Up in Oregon. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/impact-low-cost-nudges-and-improved-communication-medicare-take-oregon>
- \* The Effect of Behavioral Nudges via Mailed Letters on Subsidized Health Insurance Take-up. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/effect-behavioral-nudges-mailed-letters-subsidized-health-insurance-take>

### Medicare payment reform

Barnett, Michael L., Andrew Wilcock, J. Michael McWilliams, Arnold M. Epstein, Karen E. Joynt Maddox, E. John Orav, David C. Grabowski, and Ateev Mehrotra. 2019. “Two-year evaluation of mandatory bundled payments for joint replacement.” *New England Journal of Medicine*, 380(3): 252–262. doi:10.1056/NEJMsa1809010

- \* Changing Financial Incentives for Medicare Providers to Encourage Home Dialysis in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/changing-financial-incentives-medicare-providers-encourage-home-dialysis-united-states>.
- \* Finkelstein, Amy, Yunan Ji, Neale Mahoney, and Jonathan Skinner. 2018. “Mandatory Medicare Bundled Payment Program for Lower Extremity Joint Replacement and Discharge to Institutional Postacute Care: Interim Analysis of the First Year of a 5-Year Randomized Trial.” *JAMA*, 320(9):892-900. doi:10.1001/jama.2018.12346
- Haas, Derek A., Xiaoran Zhang, Robert S. Kaplan, and Zirui Song. 2019. “Evaluation of Economic and Clinical Outcomes Under Centers for Medicare & Medicaid Services Mandatory Bundled Payments for Joint Replacements.” *JAMA Internal Medicine*, 179(7):924-931. doi:10.1001/jamainternmed.2019.0480
- \* Ji, Yunan, Liran Einav, Neale Mahoney, and Amy Finkelstein. 2022. “Financial Incentives to Facilities and Clinicians Treating Patients With End-stage Kidney Disease and Use of Home Dialysis: A Randomized Clinical Trial.” *JAMA Health Forum.*;3(10):e223503. doi:10.1001/jamahealthforum.2022.3503
- \* Liran Einav, Amy Finkelstein, Yunan Ji, and Neale Mahoney. 2022. Voluntary Regulation: Evidence from Medicare Payment Reform.” *The Quarterly Journal of Economics*, Volume 137, Issue 1, Pages 565–618, <https://doi.org/10.1093/qje/qjab035>.
- \* Figure 1: Liran Einav, Amy Finkelstein, Yunan Ji, and Neale Mahoney. 2020. “Randomized trial shows healthcare payment reform has equal-sized spillover effects on patients not targeted by reform.” PNAS. <https://doi.org/10.1073/pnas.2004759117>.

- \* The Impact of Bundled Payments on Medicare Spending, Utilization, and Quality in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/impact-bundled-payments-medicare-spending-utilization-and-quality-united-states>

The Lewin Group. 2018. "CMS Comprehensive Care for Joint Replacement Model: Performance Year 1 Evaluation Report." <https://innovation.cms.gov/files/reports/cjr-firstannrpt.pdf>

- \* Voluntary Regulation: Evidence from a randomized Medicare payment reform. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/voluntary-regulation-evidence-randomized-medicare-payment-reform>

### Government letters to reduce overprescribing.

- \* Reducing Inappropriate Prescribing of Controlled Substances in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/reducing-inappropriate-prescribing-controlled-substances-united-states>
- + Sacarny, Adam, David Yokum, and Shantanu Agrawal. 2017. "Government-Academic Partnerships in Randomized Evaluations: The Case of Inappropriate Prescribing." *American Economic Review*, 107(5): 466-70.
- \* Sacarny, Adam, David Yokum, Amy Finkelstein, and Shantanu Agrawal. 2016. "Medicare Letters To Curb Overprescribing Of Controlled Substances Had No Detectable Effect On Providers." *Health Affairs* 35(3):471-9.
- \* Sacarny, Adam, Michael L. Barnett, Jackson Le, Frank Tetkoski, David Yokum, and Shantanu Agrawal. 2018. "Effect of Peer Comparison Letters for High-Volume Primary Care Prescribers of Quetiapine in Older and Disabled Adults. A Randomized Clinical Trial." *JAMA Psychiatry*. doi:10.1001/jamapsychiatry.2018.1867.
- \* The Effect of Informative Letters on the Prescription and Receipt of Seroquel in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/effect-informative-letters-prescription-and-receipt-seroquel-united-states>

### Physician-patient race concordance.

- \* Figure 2: Alsan, Marcella, Owen Garrick, and Grant Graziani G. 2019. "Does Diversity Matter for Health? Experimental Evidence from Oakland." *American Economic Review*. <https://www.aeaweb.org/articles?id=10.1257/aer.20181446&&from=f>
- \* Alsan, Marcella and Sarah Eichmeyer. 2024. "Experimental Evidence on the Effectiveness of Nonexperts for Improving Vaccine Demand." *American Economic Journal: Economic Policy*. <https://www.aeaweb.org/articles?id=10.1257/pol.20210393&&from=f>
- \* The Impact of Provider Race on the Health Behavior of Black Men. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/impact-provider-race-health-behavior-black-men>

### Medical Debt Relief.

- \* Forgive and Forget: The Impact of Medical Debt Relief on Financial and Health Outcomes in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/forgive-and-forget-impact-medical-debt-relief-financial-and-health-outcomes-united>
- \* Kluender, Raymond, Neale Mahoney, Francis Wong, and Wes Yin W. 2024. "The Effects of Medical Debt Relief: Evidence from Two Randomized Experiments." NBER Working Paper. <https://www.nber.org/papers/w32315>

### Hotspotting to Support High-Need, High-Cost Patients

- \* Figure 3: Finkelstein, Amy, Annetta Zhou, Sarah Taubman, and Joseph Doyle. 2020. "Health Care Hotspotting - A Randomized, Controlled Trial." *New England Journal of Medicine*, 382:152-62. DOI: [10.1056/NEJMsa1906848](https://doi.org/10.1056/NEJMsa1906848)
- \* Finkelstein, Amy, Joel Cantor, Jesse Gubb, Margaret Koller, Aaron Truchil, Ruohua Annetta Zhou, and Joseph Doyle. 2023. "The Camden Coalition Care Management Program Improved Intermediate Care Coordination: A Randomized Controlled Trial." *Health Affairs*. <https://doi.org/10.1377/hlthaff.2023.01151>
- \* Health Care Hotspotting in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/health-care-hotspotting-united-states>

## Nurse Home Visiting Programs.

- \* Gourevitch, Rebecca A., Chloe Zera, Michelle W. Martin, Ruohua Zhou, Mary Ann Bates, Katherine Baicker, and Margaret McConnell. 2023. "Home Visits With A Registered Nurse Did Not Affect Prenatal Care In A Low-Income Pregnant Population." *Health Affairs*. 2023. <https://doi.org/10.1377/hlthaff.2022.01517>
- \* McConnell, Margaret A., Slawa Rokicki, Samuel Ayers, Farah Allouch, Nicolas Perreault, Rebecca A. Gourevitch, Michelle W. Martin et al. 2022. "Effect of an Intensive Nurse Home Visiting Program on Adverse Birth Outcomes in a Medicaid-Eligible Population: A Randomized Clinical Trial." *JAMA*. 2022;328(1):27–37. [doi:10.1001/jama.2022.9703](https://doi.org/10.1001/jama.2022.9703).
- \* Randomized Evaluation of the Nurse-Family Partnership in South Carolina. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/randomized-evaluation-nurse-family-partnership-south-carolina>.

## Workplace wellness programs.

- \* Jones, Damon, David Molitor, and Julian Reif. 2019. "What Do Workplace Wellness Programs Do? Evidence from the Illinois Workplace Wellness Study." *Quarterly Journal of Economics*, 134(4):1747-1791. <https://doi.org/10.1093/qje/qjz023>
- \* Reif, Julian, David Chan, Damon Jones, Laura Payne, and David Molitor. 2020. "Effects of a Workplace Wellness Program on Employee Health, Health Beliefs, and Medical Use." *Jama Internal Medicine*, 180(7):952-960. <https://doi.org/10.1001/jamainternmed.2020.1321>
- \* Song, Zirui, and Katherine Baicker. 2019. "Effect of a Workplace Wellness Program on Employee Health and Economic Outcomes: A Randomized Clinical Trial." *JAMA*, 321(15): 1491–1501. [doi:10.1001/jama.2019.3307](https://doi.org/10.1001/jama.2019.3307)
- \* The Impact of a Workplace Wellness Program in Illinois. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/impact-workplace-wellness-program-illinois>
- \* The Impact of Employee Wellness Programs in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/impact-employee-wellness-programs-united-states>
- \* The limited impact of US workplace wellness programs on health and employment-related outcomes. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). Policy Insight. <https://www.povertyactionlab.org/policy-insight/limited-impact-us-workplace-wellness-programs-health-and-employment-related-outcomes>

## Influencing Health Behaviors.

- \* Anderson, Daren R., Samantha Horn, Dean Karlan, Amanda E. Kowalski, Jody L. Sindelar J, Jonathan Zinman, and Kenneth Ward. 2021. "Evaluation of Combined Financial Incentives and Deposit Contract Intervention for Smoking Cessation: A Randomized Controlled Trial." *Journal of Smoking Cessation*. <https://doi.org/10.1155/2021/6612505>
- + Breza, Emily, Fatima Cody Stanford,, Marcella Alsan, Burak Alsan, Abhijit Banerjee, Arun G. Chandrasekhar, Sarah Eichmeyers et al. 2021. "Effects of a large-scale social media advertising campaign on holiday travel and COVID-19 infections: a cluster randomized controlled trial." *Nat Med* 27, 1622–1628. <https://doi.org/10.1038/s41591-021-01487-3>
- \* Doyle, Joseph, Marcella Alsan, Nicholas Skelley, Yutong Lu, and John Cawley. 2023. "Effect of an Intensive Food-as-Medicine Program on Health and Health Care Use: A Randomized Clinical Trial." *JAMA Intern Med*. 2024; 184(2):154–163. [doi:10.1001/jamainternmed.2023.6670](https://doi.org/10.1001/jamainternmed.2023.6670)
- \* Ho, Lisa, Emily Breza, Abhijit Banerjee, Arun G. Chandrasekhar, Fatima C. Stanford, Renato Fior, Paul Goldsmith-Pinkham et al. 2023. "The Impact of Large-Scale Social Media Advertising Campaigns on COVID-19 Vaccination: Evidence from Two Randomized Controlled Trials." *AEA Papers and Proceedings*, 113: 653-58 <https://doi.org/10.1257/pandp.20231112>
- \* Prescribing Food as Medicine among Individuals Experiencing Diabetes and Food Insecurity in the United States. Cambridge, MA: Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/evaluation/prescribing-food-medicine-among-individuals-experiencing-diabetes-and-food-insecurity>

---

## ABOUT J-PAL

The Abdul Latif Jameel Poverty Action Lab (J-PAL) is a global research center working to reduce poverty by ensuring that policy is informed by scientific evidence. Anchored by a network of more than 900 researchers at universities around the world, J-PAL conducts randomized impact evaluations to answer critical questions in the fight against poverty.

**Author:** Spencer Crawford | **Editor:** Vincent Quan

**2024 Update Author:** Anisha Sehgal

**2024 Editor:** Alejandro Noriega