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NBER Profile: Kevin Milligan

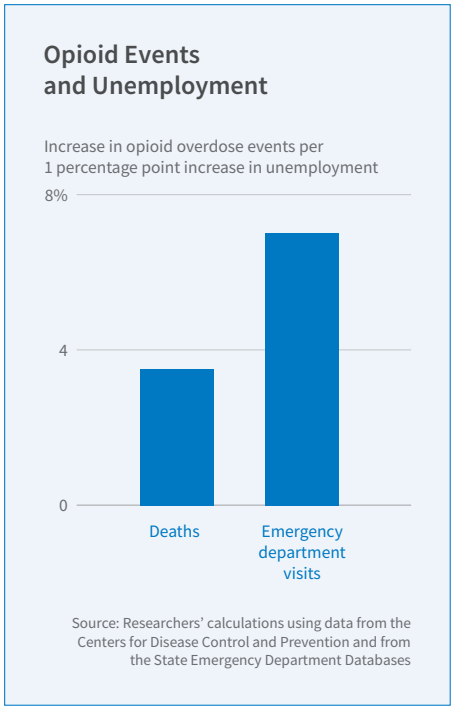
Kevin Milligan is a Professor at the Vancouver School of Economics at the University of British Columbia. He is a Research Associate in the NBER's aging and public economics programs and a member of the NBER's international social security working group.

Dr. Milligan's research has explored a wide variety of labor economics and public policy questions in Canada, the U.S., and elsewhere. He has written about the effects of maternity leave and child tax credits on the wellbeing of children and about taxation and inequality. His work also explores issues in the economics of

(continued on page 2)

Are Opioid Deaths Affected by Macroeconomic Conditions?

The rate of drug overdose deaths involving opioids tripled between 2000 and 2014, according to the U.S. Centers for Disease Control and Prevention (CDC). One theory that has recently garnered significant attention posits that a decline in economic opportunities for some segments of the population has led to a rise in "deaths of despair," including deaths related to drug use. The fact that some of the recent rise in drug deaths coincides with the Great Recession and its aftermath highlights the importance of understanding the connection between economic conditions and drug deaths.



Researchers Alex Hollingsworth, Christopher Ruhm, and Kosali Simon take up this question in their working paper **Macroeconomic Conditions and Opioid Abuse** (NBER Working Paper No. 23192). The researchers examine how deaths and emergency department (ED) visits due to opioids and other drugs are related to shocks to the local unemployment rate.

The researchers use data on drug poisoning deaths derived from the CDC's Multiple Cause of Death files for the period 1999 to 2014. These data cover all deaths in the U.S. and include state and county of residence. They also use information from the Healthcare Cost and Utilization Project of the Agency for Healthcare Research and Quality to compile data on drug-related ED visits at the county and state level. While comprehensive national ED visit data

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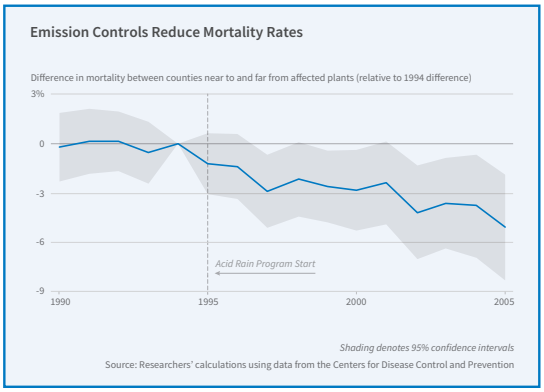

Profile *(from page 1)*

aging, such as whether older individuals are healthy enough to work longer and how older individuals who are not working and not yet eligible for public pension benefits avoid economic hardship.

Milligan recently served as an adviser to the Canadian Department of Finance on its Review of Federal Tax Expenditures. He is a Fellow-in-Residence at the C.D. Howe Institute, a Canadian think tank, and a member of the Institute's Fiscal and Tax Competitiveness and Human Capital Policy Councils. In 2015, Milligan was awarded the Doug Purvis Memorial Prize for a highly significant contribution to Canadian economic policy for his authorship of a C.D. Howe Institute report on tax policy.

Milligan serves on the research committee of the Canadian Tax Foundation and was previously on the Board of Directors of the U.S. National Tax Association. He is the co-editor of the *Canadian Tax Journal* and has served as an associate editor of *Canadian Public Policy*.

Milligan received his Ph.D. in Economics from the University of Toronto and a bachelor's degree from Queen's University. His Ph.D. thesis was awarded the National Tax Association Dissertation Award in 2002.

In his free time, Milligan enjoys coaching baseball and learning to read traditional Chinese.

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Opioids *(from page 1)*

are not available, the researchers' data cover a total of 16 states for the years 2000 to 2014 (or parts thereof).

The researchers first use their data to examine trends in drug-related deaths and ED visits. The incidence of all drug-related deaths rose from 6 per 100,000 in 1999 to 16 per 100,000 in 2014. On average, half of these drug-related deaths involved opioids, 17 percent specifically involved heroin, and 38 percent involved only drugs other than opioids. Opioid-related ED visits are also on the rise, growing by about one-third between 2006 and 2014, though they represent just 14 percent of all drug-related ED visits. The probability that an opioid overdose ED visit results in an in-hospital death is 1.2 percent, far higher than the probability of death after an overdose of benzodiazepines, anti-depressants, or other common drugs.

Turning to the results, the researchers find that a one percentage point increase in the county unemployment rate is associated with an additional 0.2 opioid-involved drug-related deaths per 100,000 county residents, a 3.6 percent increase relative to the average rate of 5.4 deaths per 100,000. Similarly, there is a 3.3 percent increase in the rate of all drug-related deaths. For ED visits, a one percentage point rise in the county unemployment rate is linked to an additional 0.95 opioid overdose ED visits per 100,000 residents, a 7.0 percent increase. All of the estimated effects are larger when the researchers use the state unemployment rate rather than the county rate.

The increase in drug-related deaths has been far more rapid for non-Hispanic whites than for blacks and Hispanics. This leads the researchers to explore whether the effect of macroeconomic conditions on drug-related deaths and ED visits differs across race and ethnic groups. They find that the countercyclical variation in opioid-related deaths and all drug deaths is primarily driven by the effects for whites, with smaller effects for Hispanics and no clear evidence of any effect for blacks. For ED visits, it is not possible to determine whether the effects differ across groups.

"Overall, we obtain strong evidence that opioid-related deaths and ED visits increase during times of economic weakness," the researchers conclude. Turning to possible mechanisms, they note that their results are consistent with a role for supply-side factors such as a loss of health insurance or of public funding for substance abuse treatment during times of economic weakness. The results do not suggest a substantial impact of factors like lower incomes or greater leisure time (which could be used to engage in health-promoting behaviors like exercise or drug treatment programs), as these would be expected to result in reduced drug deaths and ED visits during recessions.

However, the researchers note, "notwithstanding the possible pathways just described, we suspect that the dominant factor linking macroeconomic conditions to adverse drug outcomes is that the fatal and near fatal abuse of opioids often (and increasingly over time) reflects a physical manifestation of mental health problems that have long been known to rise during periods of economic decline… With the increased availability of prescription opioids (and reductions in heroin prices), it seems likely that the consumption of these drugs rises when economic conditions worsen and that some of this increased use leads to adverse outcomes including ED visits or death."

The Long-Run Effects of Pollution Exposure on Mortality

Pollution levels in many parts of the U.S. exceed national air quality standards for several common pollutants including fine particulate matter, ozone, sulfur dioxide, and nitrogen dioxide. While a number of studies have identified the short-term effects of pollution on health using temporary shifts or spikes in exposure, quantifying the effects of long-run exposure to pollution is more challenging because it requires a long-lasting change in ambient pollution levels. Moreover, the fact that people may respond to changes in pollution levels by moving complicates the analysis.

In **Long-Run Pollution Exposure and Adult Mortality: Evidence from the Acid Rain Program** (NBER Working Paper No. 23524), Alan Barreca, Matthew Neidell, and Nicholas Sanders provide new evidence on the health effects of long-term pollution exposure using the U.S. Acid Rain Program (ARP), a cap-and-trade program to control sulfur dioxide (SO_2) emissions that was implemented beginning in 1995.

The ARP provides an attractive setting in which to explore this question, as it had an immediate and permanent effect on SO_2 levels. SO_2 is a pollutant in its own right and also a precursor gas in the formation of particulate matter smaller than 2.5 micrometers ($PM_{2.5}$), which has much more detrimental effects on health than SO_2 itself, particularly on pulmonary and cardiac function. The ARP initially regulated only the 110 most SO_2-intensive coal power plants, allowing the researchers to compare changes in mortality over time in counties near regulated plants (treatment counties) to those in counties far from these plants (control counties). As both SO_2 and $PM_{2.5}$ can travel vast distances once airborne, the researchers define "near" as being within a 100-mile radius of a regulated plant. Using such a large treatment area mitigates the risk that people are moving between treatment and control counties as a result of changes in pollution levels.

The analysis focuses on the working-age population, those ages 35–64. Much of the earlier work on the health effects of pollution focused on vulnerable groups such as infants and the elderly, so it is useful to examine the effects of pollution on a part of the population that is in more robust health and where mortality represents a significant loss in productivity and life expectancy. The study covers the period 1990–2005, spanning the five years before and ten years after the implementation of the ARP.

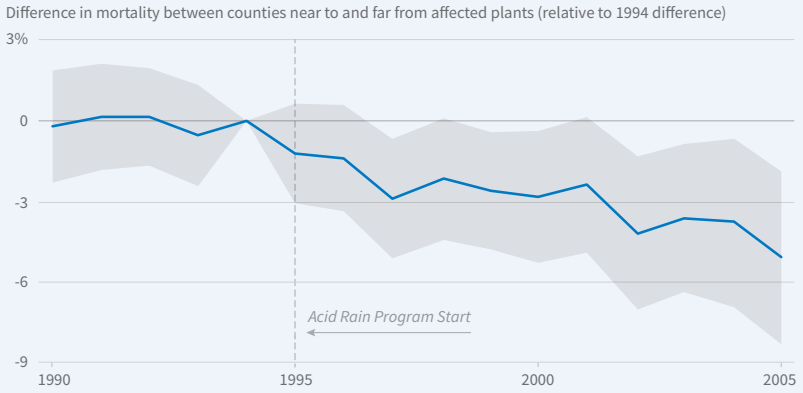
The researchers construct annual county-level mortality rates using mortality data from the Centers for Disease Control and Prevention for all deaths in the U.S., as well as population data from the 1990 U.S. Census. They focus on mortality from internal causes as well as respiratory and cardiovascular mortality, where $PM_{2.5}$ exposure is expected to be important.

Trends in mortality from internal causes in near and far counties were the same until 1995, when the mortality rate in counties near affected plants began to fall relative to the mortality rate in counties far from affected plants, the researchers find. By 2005, ten years after the ARP's introduction, the mortality rate in near counties had fallen by 5 percent. This corresponds to an estimated 7,300 fewer deaths in 2005 for those ages 35–64 in the treatment counties. Results for respiratory and cardiovascular mortality largely mirror those for internal cause mortality.

The researchers also find that the introduction of the ARP led to decreases in infant and elderly mortality. These mortality declines translate into an estimated 1,800 fewer infant deaths and 26,000 fewer deaths among those age 65 and above in 2005. The value of the mortality improvements for all age groups is estimated to be $164 billion using a constant value of $4.9 million per statistical life, or $134 billion using age-specific values.

"The Acid Rain Program caused lasting improvements in ambient air quality, with mortality benefits that accrued to adults gradually over time," write the researchers. The finding that reductions in mortality risk continued to grow in the first ten years after the implementation of the ARP suggests that health effects accumulate after a change in sustained exposure to pollution. The researchers note that there are other important health and human capital outcomes potentially affected by improvements in air quality.

Emission Controls Reduce Mortality Rates



Shading denotes 95% confidence intervals

Source: Researchers' calculations using data from the Centers for Disease Control and Prevention

Neidell acknowledges support from the Columbia Population Research Center, which is supported by the Eunice Kennedy Shriver National Institute of Child Health & Human Development (award P2CHD058486).

Does Early Preventive Care for Diabetes Improve Outcomes?

With the incidence of chronic illnesses such as diabetes and cardiovascular disease on the rise in the United States and around the world, the need for effective prevention and management of chronic illness is increasingly apparent. Preventive care, including routine checkups and regular screening tests, offers the potential of intervening early enough to make a difference in the course of a disease.

Yet obtaining reliable evidence on the cost-effectiveness of preventive care is tricky. Patients typically decide whether to seek preventive care and this choice may be correlated with other characteristics that affect health outcomes. It may also be difficult to obtain a health outcome measure that captures the benefits of preventive care.

Researchers Toshiaki Iizuka, Katsuhiko Nishiyama, Brian Chen, and Karen Eggleston investigate the value of preventive care in a new study, **Is Preventive Care Worth the Cost? Evidence from Mandatory Checkups in Japan** (NBER Working Paper No. 23413).

The researchers focus on diabetes, a prime target for prevention because of the disease's cost and growing prevalence — a recent study suggests that over 400 million adults worldwide have the disease, incurring estimated annual costs of $825 billion. Diabetes is often called a "silent killer" because individuals are asymptomatic in the disease's early stages and may be unaware of the condition, but as the disease progresses they suffer from serious complications including problems of the eye, heart, kidney, nerves, and feet. Diabetes and pre-diabetes can be detected by elevated blood sugar levels as measured by fasting blood sugar (FBS) or hemoglobin A1c (HbA1c) levels, both common diagnostic tests. Diabetes can generally be prevented by early intervention to reduce lifestyle risk factors such as smoking, unhealthy diet, sedentary lifestyle, and obesity.

Japan is the setting for this analysis. Since an annual health checkup is mandatory, studying preventive care in this context eliminates the concern that those who use it may differ systematically from those who do not. Further, the researchers have access to a rich dataset that links data from medical claims, health surveys, and health checkups.

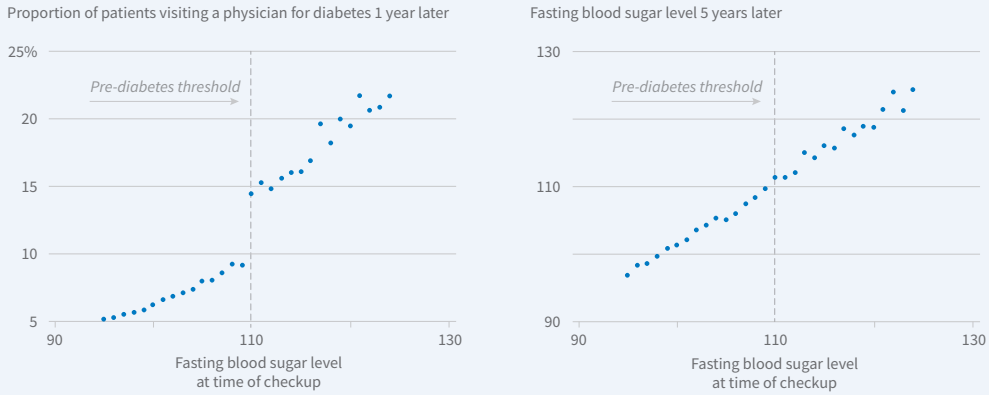
Japanese employers must conduct an annual checkup that includes testing FBS or HbA1c. Employees receive a report after the checkup that includes a warning if test values are above a threshold value. The threshold values are set by employers — many use a 110 mg/dl threshold for FBS, the minimum value to be considered "borderline type" (values below 110 are "normal type" and values above 126 are "diabetic type"). Individuals who receive a warning may schedule a follow-up visit with their provider to discuss the result, though they are not obliged to do so and employers are not required to monitor or enforce such a visit.

The researchers focus on individuals with FBS values near the 110 threshold. People with values just above and just below the threshold presumably face a similar diabetes risk, as blood sugar levels go up and down and cannot be controlled with precision. However, only individuals with a test value above 110 receive a warning. Thus, any clear difference in health behaviors or outcomes between those just above and below the FBS threshold is likely to reflect the effect of the warning.

The researchers find that the probability of visiting a doctor for diabetes rises by 5 percentage points at the threshold, from 10 to 15 percent. While this represents a 50 percent increase, it also implies that most people above the threshold do not seek follow-up care. Some people in this group may not have received a warning, as employers use different thresholds. However, it is also possible that some people discount the importance of the warning even when they receive it.

The researchers test for an increase in preventive care at an FBS value of 126, the lower bound for a diabetic type. The effect is smaller than at the 110 threshold even though this threshold represents a more serious signal of diabetes. The weaker response is consistent with the fact that few checkup reports use 126 as the warning threshold, raising the prospect that many high-risk people

Mandatory Checkups Trigger Preventive Care but Do Not Affect Blood Sugar



Source: Researchers' calculations using data from the Japan Medical Data Center

are not being alerted to their risk level.

Moving to health outcomes, the researchers use the FBS score five years after the original test as a medium-term outcome and the predicted 5-year risk of mortality and diabetes complications (5 to 10 years after the original test) as a long-term outcome. For both measures, they don't find that health outcomes are better for those with values just above 110 in the original test.

The researchers conclude that they "do not find evidence that additional medical care triggered by health signals is cost-effective." For the borderline type threshold of 110, signals led to some additional use of care but no improvement in health outcomes. For the diabetic type threshold of 126, there was little effect on utilization, likely because most employers use a lower threshold to issue warnings. The researchers suggest that allowing employers to determine their own threshold "may exacerbate rather than mitigate wasteful overuse of some kinds of care while not effectively promoting use of medical resources that are under-used relative to their cost-effectiveness." They also note that the value of health signals may be limited when warnings fail to communicate clearly about health risks and there is no mandate for follow-up care. They write that "if preventive care is indeed cost-effective, then to make prevention work, a more interventionist approach may be necessary."

The authors acknowledge financial support from the Kikawada Foundation.

NBER Affiliates' Work Appearing in Medical Journals

Many NBER-affiliated researchers publish some of their findings in medical journals that do not allow pre-publication distribution. This makes it impossible to include these papers in the NBER working paper series. This is a partial listing of recent papers in this category.

Low-Cost Behavioral Nudges Increase Medicaid Take-Up Among Eligible Residents Of Oregon

B. J. Wright, G. Garcia-Alexander, M. A. Weller, and K. Baicker, Health Affairs, *36(5), May 2017, pp. 838–45.*

In support of efforts to reduce the numbers of uninsured, evidence on the effectiveness of policies aiming to increase take-up of available health insurance programs and subsidies is limited. The researchers find that even very low-cost communications substantially increase insurance enrollment across varying demographic groups and that such outreach could substantially raise coverage of vulnerable populations.

Impact of Ambulance Diversion: Black Patients with Acute Myocardial Infarction Had Higher Mortality Than Whites

R. Y. Hsia, N. Sarkar, and Y. Shen, Health Affairs, *36(6), June 2017, pp. 1070–7.*

The researchers investigate whether there is a disparity in outcomes between blacks and whites during times of emergency department crowding that force ambulance diversions. Using data on patients from California with acute myocardial infarction (heart attacks), the researchers observe that, during similar ambulance diversion scenarios, black patients experienced ninety-day and one-year mortality rates that were 19 percent and 14 percent higher, respectively, than their white counterparts.

Alternative Alternative Payment Models

K. Baicker and M. E. Chernew, JAMA Internal Medicine, *177(2), February 2017, pp. 222–3.*

Physician Age and Outcomes of Hospitalized Elderly Patients in the U.S.: An Observational Study

Y. Tsugawa, J. P. Newhouse, A. M. Zaslavsky, D. M. Blumenthal, and A. B. Jena, British Medical Journal, *357, May 2017 (published online).*

Influence of the Flavored Cigarette Ban on Adolescent Tobacco Use

C. J. Courtemanche, M. K. Palmer, and M. F. Pesko, American Journal of Preventive Medicine, *52(5), May 2017, pp. e139–46.*

Outpatient Office Wait Times and Quality of Care for Medicaid Patients

T. Oostrom, L. Einav, and A. Finkelstein, Health Affairs, *36(5), May 2017, pp. 826–32.*

The Contribution of Rising Adiposity to the Increasing Prevalence of Diabetes in the United States
A. Stokes and S. H. Preston, Preventative Medicine, *101, June 2017, pp. 91–5.*

Health Policy Trials
J. P. Newhouse and S. T. Normand, New England Journal of Medicine, *376(22), June 2017, pp. 2160–7.*

Health Insurance Coverage and Health — What the Recent Evidence Tells Us
B. D. Sommers, A. A. Gawande, and K. Baicker, New England Journal of Medicine, *June 2017 (published online).*

Constant Lethality of Gunshot Injuries from Firearm Assault: United States, 2003-2012.
P. J. Cook, A. E. Rivera-Aguirre, M. Cerdá, and G. Wintemute, American Journal of Public Health, *107(8), August 2017, pp. 1324–8.*

From 2016

Medicare Advantage Plans Pay Hospitals Less Than Traditional Medicare Pays
L.C. Baker, M. K. Bundorf, A. M. Devlin, and D. P. Kessler, Health Affairs, *35(8), August 2016, pp. 1444–51.*

Effect of Medicaid Coverage on ED Use — Further Evidence from Oregon's Experiment
A. N. Finkelstein, S. L. Taubman, H. L. Allen, B. J. Wright, and K. Baicker, New England Journal of Medicine, *375(15), October 2016, pp. 1505–7.*

Abstracts of Selected Recent NBER Working Papers

w23269
Early Effects of the Affordable Care Act on Health Care Access, Risky Health Behaviors, and Self-Assessed Health
Charles Courtemanche, James Marton, Benjamin Ukert, Aaron Yelowitz, Daniela Zapata

The goal of the Affordable Care Act (ACA) was to achieve nearly universal health insurance coverage through a combination of mandates, subsidies, marketplaces, and Medicaid expansions, most of which took effect in 2014. We use data from the Behavioral Risk Factor Surveillance System to examine the impacts of the ACA on health care access, risky health behaviors, and self-assessed health after two years. We estimate difference-in-difference-in-differences models that exploit variation in treatment intensity from state participation in the Medicaid expansion and pre-ACA uninsured rates. Results suggest that the ACA led to sizeable improvements in access to health care in both Medicaid expansion and non-expansion states, with the gains being larger in expansion states along some dimensions. No statistically significant effects on risky behaviors or self-assessed health emerge for the full sample. However, we find some evidence that the ACA improved self-assessed health among older non-elderly adults, particularly in expansion states.

w23271
Adaptation and the Mortality Effects of Temperature Across U.S. Climate Regions
Garth Heutel, Nolan H. Miller, David Molitor

We study heterogeneity in the relationship between temperature and mortality across U.S. climate regions and its implications for climate adaptation. Using exogenous variation in temperature and data on all elderly Medicare beneficiaries from 1992–2011, we show that the mortality effect of hot days is much larger in cool ZIP codes than in warm ones and that the opposite is true for cold days. We attribute this heterogeneity to historical climate adaptation. As one adaptive mechanism, air conditioning penetration explains nearly all of the regional heterogeneity in heat-driven morality but not cold-driven mortality. Combining these results with projected changes in local temperature distributions by the end of the century, we show that failure to incorporate climate heterogeneity in temperature effects can lead to mortality predictions that are wrong in sign for both cool and warm climates. Allowing regions to adapt to future climate according to the degree of climate adaptation currently observed across climates yields mortality impacts of climate change that are much lower than those estimated without allowing for adaptation, and possibly even negative.

w23297

Seeing and Hearing: The Impacts of New York City's Universal Pre-Kindergarten Program on the Health of Low-Income Children

Kai Hong, Kacie Dragan, Sherry Glied

Prior research suggests that high quality universal pre-kindergarten (UPK) programs can generate lifetime benefits, but the mechanisms generating these effects are not well understood. In 2014, New York City made all 4-year-old children eligible for high-quality UPK programs that emphasized developmental screening. We examine the effect of this program on the health and healthcare utilization of children enrolled in Medicaid using a difference-in-regression discontinuity design that exploits both the introduction of UPK and the fixed age cut-off for enrollment. The introduction of UPK increased the probability that a child was diagnosed with asthma or with vision problems, received treatment for hearing or vision problems, or received a screening during the pre-kindergarten year. UPK accelerated the timing of diagnoses of vision problems. We do not find any increases in injuries, infectious diseases, or overall utilization. These effects are not offset by lower screening rates in the kindergarten year, suggesting that one mechanism through which UPK might generate benefits is that it accelerates the rate at which children are identified with conditions that could potentially delay learning and cause behavioral problems. We do not find significant effects of having a child who was eligible for UPK on mothers' health, fertility, or healthcare utilization.

w23342

The Effect of Public Insurance Expansions on Substance Use Disorder Treatment: Evidence from the Affordable Care Act

Johanna Catherine Maclean, Brendan Saloner

We examine the early effects of U.S. state Medicaid expansions under the Affordable Care Act (ACA) on substance use disorder (SUD) treatment utilization. We couple administrative data on admissions to specialty SUD treatment and prescriptions for medications used to treat SUDs in outpatient settings with a differences-in-differences design. We find no evidence that admissions to specialty treatment changed in expanding states relative to non-expanding states. However, post expansion, Medicaid-reimbursed prescriptions for medications used to treat SUDs in outpatient settings increased by 33 percent in expanding states relative to non-expanding states. Among patients admitted to specialty SUD treatment, we find that in expanding states Medicaid insurance and use of Medicaid to pay for treatment increased by 58 percent and 57 percent following the expansion. In an extension to the main analyses we find no evidence that the expansions affected fatal alcohol poisonings or drug-related overdoses. Overall, our findings provide evidence on the early effects of the ACA on SUD treatment utilization with the newly-eligible Medicaid population.

w23353

Cost of Service Regulation in U.S. Health Care: Minimum Medical Loss Ratios

Steve Cicala, Ethan M.J. Lieber, Victoria Marone

A health insurer's Medical Loss Ratio (MLR) is the share of premiums spent on medical claims. The Affordable Care Act introduced minimum MLR provisions for all health insurance sold in fully-insured commercial markets, thereby capping insurer profit margins, but not levels. While intended to reduce premiums, we show this rule creates incentives analogous to cost of service regulation. Using variation created by the rule's introduction as a natural experiment, we find claims costs rose nearly one-for-one with distance below the regulatory threshold: 7 percent in the individual market, and 2 percent in the group market. Premiums were unaffected.

w23376

Parental Work Hours and Childhood Obesity: Evidence Using Instrumental Variables Related to Sibling School Eligibility

Charles Courtemanche, Rusty Tchernis, Xilin Zhou

This study exploits plausibly exogenous variation from the youngest sibling's school eligibility to estimate the effects of parental work on the weight outcomes of older children in the household. Data come from the 1979 cohort of the National Longitudinal Survey of Youth linked to the Child and Young Adult Supplement. We first show that mothers' work hours increase gradually as the age of the youngest child rises, whereas mothers' spouses' work hours exhibit a discontinuous jump at kindergarten eligibility. Leveraging these insights, we develop an instrumental variables model that shows that parents' work hours lead to larger increases in children's BMI z-scores and probabilities of being overweight and obese than those identified in previous studies. We find no evidence that the impacts of maternal and paternal work are different. Subsample analyses find that the effects are concentrated among advantaged households, as measured by an index involving education, race, and mother's marital status.

w23388

The Effects of Health Insurance Parity Laws for Substance Use Disorder Treatment on Traffic Fatalities: Evidence of Unintended Benefits

Ioana Popovici, Johanna Catherine Maclean, Michael T. French

Each year, 10,000 individuals die in alcohol-impaired traffic accidents in the United States, while psychoactive drugs are involved in 20 percent of all fatal traffic accidents. We investigate whether state parity laws for substance use disorder (SUD) treat-

ment have the unintended benefit of reducing fatal traffic accidents. Parity laws compel insurers to cover SUD treatment in private insurance markets, thereby reducing the financial costs of and increasing access to treatment for beneficiaries. We employ over 20 years of administrative data from the national Fatal Accident Reporting System coupled with a differences-in-differences research design to investigate the potential spillover effects of parity laws to traffic safety. Our findings indicate that passage of a state parity law reduces fatal traffic accident rates by 4.1 to 5.4 percent. These findings suggest that government regulations requiring insurers to cover SUD treatment can significantly improve traffic safety, possibly by reducing the number of impaired drivers on roadways.

w23450

The Effect of Insurance Expansions on Smoking Cessation Medication Use: Evidence from Recent Medicaid Expansions

Johanna Catherine Maclean, Michael F. Pesko, Steven C. Hill

In this study we explore the early effects of recent Medicaid expansions on prescriptions and Medicaid payments for evidence-based smoking cessation prescription medications: Zyban, Chantix, and Nicotrol. We estimate differences-in-differences models using data on the universe of prescription medications sold in retail and online pharmacies for which Medicaid was a third-party payer. Our findings suggest that expansions increased prescriptions for smoking cessation medications by 36 percent and total payments for these medications increased by 28 percent. We provide evidence these payments were financed by state Medicaid programs and not patients themselves. Overall our findings suggest that the recent Medicaid expansions allowed low-income smokers to access effective cessation medications.

w23466

Disability Benefits, Consumption Insurance, and Household Labor Supply

David Autor, Andreas Ravndal Kostol, Magne Mogstad, Bradley Setzler

While a mature literature finds that Disability Insurance (DI) receipt discourages work, the welfare implications of these findings depend on two rarely studied economic quantities: the full cost of DI allowances to taxpayers, summing over DI transfer payments, benefit substitution to or from other transfer programs, and induced changes in tax receipts; and the value that individuals and families place on receiving benefits in the event of disability. We comprehensively assess these missing margins in the context of Norway's DI system, drawing on two strengths of the Norwegian environment. First, Norwegian register data allow us to characterize the household impacts and fiscal costs of disability receipt by linking employment, taxation, benefits receipt, and assets at the person and household level. Second, random assignment of DI applicants to Norwegian judges who differ systematically in their leniency allows us to recover the causal effects of DI allowance on individuals at the margin of program entry. Accounting for the total effect of DI allowances on both household labor supply and net payments across all public transfer programs substantially alters our picture of the consumption benefits and fiscal costs of disability receipt. While DI allowance causes a significant increase in household income and consumption on average, it has little impact on income or consumption of married applicants because spousal earnings responses (via the added worker effect) and benefit substitution entirely offset DI benefit payments among those who are allowed relative to those who are denied. To develop the welfare implications of these findings, we estimate a dynamic model of household behavior that translates employment, reapplication, and savings decisions into revealed preferences for leisure and consumption. We find that household valuation of receipt of DI benefits is considerably greater for single and unmarried individuals than for married couples because spousal labor supply substantially buffers household income and consumption in the event of DI denial.

w23472

Who Is Screened Out? Application Costs and the Targeting of Disability Programs

Manasi Deshpande, Yue Li

The application process is critical to the targeting of disability programs because disability, relative to other tags, is difficult to observe and costly to verify. We study the effect of application costs on the targeting of disability programs using the closings of Social Security Administration field offices, which provide assistance with filing disability applications. Using administrative data from the Social Security Administration, we find that field office closings lead to large and persistent reductions in the number of disability recipients and reduce targeting efficiency based on current eligibility standards. The number of disability recipients declines by 13 percent in surrounding areas, with the largest effects for applicants with moderately severe conditions, low education levels, and low pre-application earnings. Evidence on channels suggests that most of the reduction in applications is attributable to increased congestion at neighboring offices rather than increased travel times or costs of information gathering.

NBER Working Papers on Health and Aging

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