

## THE IMPACT OF MEDICAID ON CLINICAL OUTCOMES: EVIDENCE FROM THE OREGON HEALTH INSURANCE EXPERIMENT

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### EXECUTIVE SUMMARY

The Oregon Health Insurance Experiment represents the first use of a randomized, controlled study design to evaluate the impact of expanding Medicaid. In 2008, the state of Oregon drew names by lottery for its Medicaid program for low income, uninsured adults, creating the opportunity for a randomized controlled evaluation of the effect of Medicaid. Although randomized controlled trials are the gold standard in medical and scientific studies, they are rarely possible in health policy. The study represents a collaborative effort between researchers and the state of Oregon, and is available on May 2, 2013 via [www.nejm.org](http://www.nejm.org). A summary of this and prior related studies along with additional study materials are available at [www.nber.org/oregon](http://www.nber.org/oregon).

This paper evaluates the effect of Medicaid on clinical care and outcomes. We find that Medicaid coverage lowered rates of depression and nearly eliminated catastrophic out of pocket medical expenditures. We find no statistically significant effect of Medicaid on the prevalence, diagnosis, or medication of hypertension or high cholesterol. Medicaid coverage significantly increased the diagnosis of diabetes and use of diabetes medication, but we observe no significant effect on glycated hemoglobin levels or the prevalence of diabetes.

### Key Findings

Using a randomized controlled design, the study finds that for uninsured low-income adults, enrollment in Medicaid has the following effects after about two years:

- *Physical health*
  - Medicaid significantly increased the probability of being diagnosed with diabetes after the lottery (by 3.8 percentage points, relative to a base of 1.1) and use of diabetes medication (by 5.4 percentage points, relative to a base of 6.4).
  - Medicaid had no statistically significant effect on measured blood pressure, cholesterol or glycated hemoglobin (a measure of diabetic blood sugar control).
  - Medicaid had no statistically significant effect on diagnosis of or medication for blood pressure or cholesterol.
  - There were also no statistically significant effects observed in higher risk subgroups, including older adults and those with pre-existing diagnoses.

- *Mental health*
  - Medicaid reduced observed rates of depression by 30 percent (by 9.2 percentage points, relative to a base of 30).
  - Medicaid increased the probability of being diagnosed with depression after the lottery (by 3.8 percentage points, relative to a base of 4.8).
  - Medicaid also increased self-reported mental health.
- *Financial hardship*
  - Medicaid virtually eliminated out-of-pocket catastrophic medical expenditures (reducing the chances of having out-of-pocket expenditures that exceeded 30 percent of income by 4.5 percentage points, relative to a base of 5.5).
  - Medicaid reduced other measures of financial strain, such as reducing the probability of having to borrow money or skip paying other bills because of medical expenses by more than 50 percent (by 14.2 percentage points, relative to a base of 24.4).
- *Utilization and access*
  - Medicaid increased use of physician services, prescription drugs, and hospitalizations. This increased use represents about \$1200 in medical costs annually, or an increase of about 35 percent.
  - Medicaid increased the probability of having a usual place of care by 50 percent (by 23.8 percentage points, relative to a base of 46.1).
  - Medicaid increased the use of preventive services and screening, such as increasing the probability of having a cholesterol check by more than 50 percent (by 14.6 percentage points, relative to a base of 27.2) and doubling the probability that women over 50 had a mammogram (by 29.7 percentage points, relative to a base of 28.9).

## **Methodological Highlights**

This study uses a randomized controlled design – the gold standard for medical evidence – to evaluate the effects of insurance.

- Although there are many studies comparing health or health care use between the insured and uninsured, inferring the impact of health insurance from such comparisons is difficult because the insured and the uninsured may differ in many ways – such as income, employment, or initial health – that may themselves affect the outcomes being studied. This makes it difficult to discern the effects of insurance itself.
- Random assignment of health insurance to some but not others avoids such confounding factors (since the treatment and control groups are divided by chance, eliminating systematic differences between them). Such an experiment has never

before been use to evaluate Medicaid, though, because there would be ethical concerns with deliberately withholding available health insurance. The allocation of the limited number of spots available in Oregon’s insurance program, however, created a natural circumstance that allowed researchers to take advantage of such a randomized design.

- The Oregon health insurance lottery provided the unique opportunity to gauge the effects of health insurance using the rigorous standards of a randomized controlled trial.
  - In early 2008, Oregon opened a waiting list for its Medicaid program for low-income adults that had previously been closed to new enrollment. Approximately 90,000 people signed up for the available 10,000 openings.
  - The state drew names from this waiting list by lottery to fill the openings. The state deemed random selection by lottery the fairest way within federal guidelines to allocate its limited number of openings.
  - This random selection allows researchers to gauge the many effects of health insurance itself, isolating it from the types of confounding factors that can plague observational studies.
- The study compiles rich data from many sources to examine a wide range of potential effects of insurance, including both primary data from surveys and administrative data such as hospital records.

### **Related Research**

The current study is part of a broader ongoing research program gathering a wide array of data sources to examine many different effects of Medicaid. A previous study examined administrative data and mail surveys from about a year after random assignment (Finkelstein et al, *Quarterly Journal of Economics*, Aug 2012). Like the current study, the previously study found that Medicaid substantially increased health care use – including primary and preventive care and the use of prescription medications – increased self-reported health, and reduced financial strain.

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## RESEARCH PARTNERS AND FUNDING SOURCES

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This research was conducted through a collaborative partnership between public and private entities, researchers and state officials, and local and national collaborators.

Study partners include:

- National Bureau of Economic Research (NBER)
- The Center for Outcomes Research and Education (CORE) at Providence Health & Services, Portland, OR
- Oregon Health Authority and the Office for Oregon Health Policy and Research
- Harvard University, Portland State University, the Massachusetts Institute of Technology (MIT)

In addition to the authors named above, the Oregon Health Study Group includes Matt Carlson (Portland State University), Tina Edlund (Deputy Director, Oregon Health Authority), Charles Gallia (Oregon DHS), and Jeanene Smith (Office for Oregon Health Policy and Research).

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**AUTHOR DISCLOSURES**

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**Allen** was formerly employed by Providence Health & Services, a non-profit integrated health care delivery system. She formerly served as director of the Medicaid Advisory Committee and as staff to the Oregon Health Fund Board at the Office for Oregon Health Policy and Research.

**Bernstein** has no disclosures.

**Baicker** is a MedPAC Commissioner, serves on the CBO's Panel of Health Advisers, is a director of and holds equity in Eli Lilly, has received honoraria from several physician groups for speaking engagements, and previously served on the Bush Administration's Council of Economic Advisers.

**Finkelstein** serves on the CBO's Panel of Health Advisers.

**Gruber** was a paid technical consultant to the Obama Administration during the development of the Affordable Care Act and a paid consultant to the state of Oregon for modeling health insurance expansion options, and serves on the CBO's Panel of Health Advisers.

**Newhouse** is a director of and holds equity in Aetna, which sells Medicaid policies, and serves on the CBO's Panel of Health Advisers.

**Schneider** has no financial disclosures. He is co-chair of the Committee for Performance Measurement of the National Committee for Quality Assurance (NCQA) and serves on the executive committee of the American Medical Association-sponsored Physician Consortium for Performance Improvement (AMA PCPI).

**Taubman** has no disclosures.

**Wright** is employed by Providence Health & Services, a non-profit integrated health care delivery system.

**Zaslavsky** has no disclosures.

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**FOR MORE INFORMATION**

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We encourage you to contact the principal investigators for additional information on the study and its findings:

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Summaries of this and prior related studies as well as additional study materials are available at [www.nber.org/oregon](http://www.nber.org/oregon).