

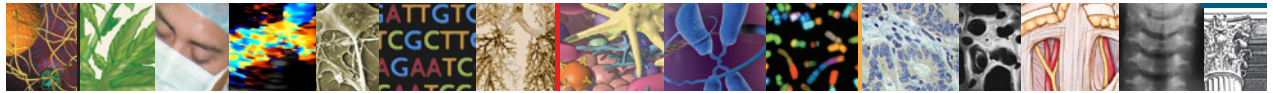


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## Effect of Medicaid Coverage on ED Use — Further Evidence from Oregon’s Experiment

Amy N. Finkelstein, Ph.D., Sarah L. Taubman, Ph.D., Heidi L. Allen, Ph.D., Bill J. Wright, Ph.D., and Katherine Baicker, Ph.D.

**T**he effect of Medicaid coverage on health and the use of health care services is of first-order policy importance, particularly as policymakers consider expansions of public health insurance.

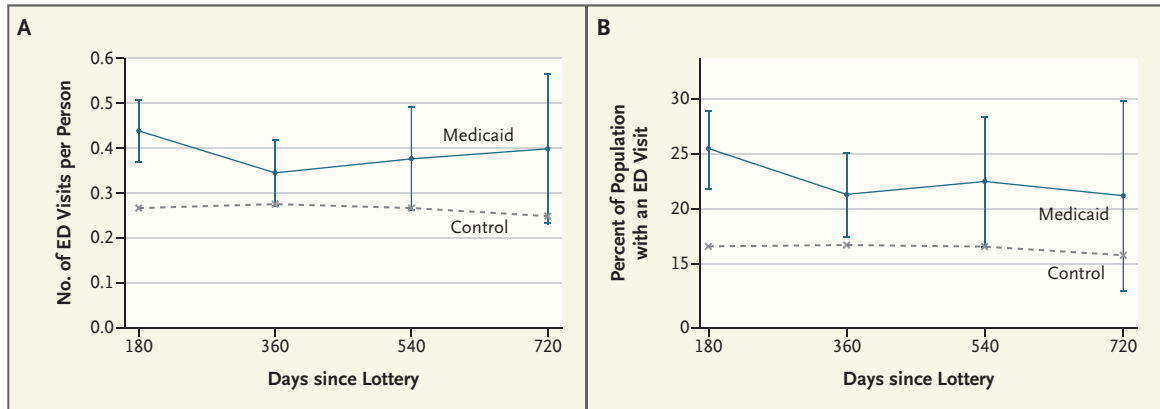
Estimating the effects of expanding Medicaid is challenging, however, because Medicaid enrollees and the uninsured differ in many ways that may also affect outcomes of interest. Oregon’s 2008 expansion of Medicaid through random-lottery selection of potential enrollees from a waiting list offers the opportunity to assess Medicaid’s effects with a randomized evaluation that is not contaminated by such confounding factors. In a previous examination of the Oregon Health Insurance Experiment, we found that Medicaid coverage increased health care use across a range of settings, improved financial security, and reduced rates of depression among enrollees, but it produced no detectable changes in several mea-

asures of physical health, employment rates, or earnings.<sup>1-4</sup>

A key finding was that Medicaid increased emergency department (ED) visits by 40% in the first 15 months after people won the lottery.<sup>3</sup> This finding was greeted with considerable attention and surprise, given the widespread belief that expanding Medicaid coverage to more uninsured people would encourage the use of primary care and thereby reduce ED use. Many observers speculated that the increase in ED use would abate over time as the newly insured found alternative sites of care or as their health needs were addressed and their health improved. One commentator, for example, raised the question, “But why did these patients

go to the ED and not to a primary care office?” He hypothesized that “Despite the earlier finding that coverage increased outpatient use, many of these newly insured patients probably had not yet established relationships with primary care physicians. If so, the excess ED use will attenuate with time.”<sup>5</sup>

We have now analyzed additional data in order to address these questions: Does the increase in ED use caused by Medicaid coverage represent a short-term effect that is likely to dissipate over time? And does Medicaid coverage encourage the newly insured to substitute physician office visits for ED visits? We used the lottery to implement a randomized, controlled evaluation of the causal effect of Medicaid coverage on health care use, applying a standard instrumental variables approach. More detail on the lottery, data, and methods is available elsewhere<sup>1-3</sup> as well as in the Supplementary Appendix



#### Estimated Effect of Medicaid Coverage on ED Use over Time.

Emergency department (ED) discharge data from January 2007 through September 2010 for the 12 EDs in the Portland area were probabilistically matched to lottery-list members. There were 24,646 lottery-list members living in the catchment area comprehensively covered by these EDs. I bars indicate 95% confidence intervals. See the Supplementary Appendix for details. The “Medicaid” line is the mean in the control group plus the estimated effect of Medicaid coverage from the two-stage least-squares regression analysis described in the Supplementary Appendix.

(available at NEJM.org), which also provides additional results.

Extending our ED administrative data by a year to span the 2007–2010 period, we analyzed the pattern of the effect of Medicaid coverage on ED use over a 2-year period after the 2008 lottery. The graphs show the effect of Medicaid coverage over time — both in terms of the mean number of ED visits per person (Panel A) and whether a person had any ED visits (Panel B) — measured separately for the four 6-month periods after lottery notification. There is no statistical or substantive evidence of any time pattern in the effect on ED use on either variable. Medicaid coverage increased the mean number of ED visits per person by 0.17 (standard error, 0.04) over the first 6 months or about 65% relative to the mean in the control group of individuals not selected in the lottery; over the subsequent three 6-month periods, the point estimates are similar and, for the most part, statistically indistinguishable from each other. For example, we cannot reject ( $P=0.80$ ) the hypothesis that the 0.17 in-

crease in ED visits attributable to Medicaid coverage in the first 6 months is the same as the 0.15 increase in visits in months 18 to 24. Thus, using another year of ED data, we found no evidence that the increase in ED use due to Medicaid coverage is driven by pent-up demand that dissipates over time; the effect on ED use appears to persist over the first 2 years of coverage. We repeated a similar analysis for hospital admissions and once again found no evidence of any time patterns in the effects of Medicaid coverage over the first 2 years (see the Supplementary Appendix for details).

In our previous work, we found that Medicaid increased both physician office visits and ED use.<sup>1-3</sup> To investigate whether Medicaid coverage affects the relationship between office visits and ED use, we analyzed data on annual office visits from our 2010 in-person survey, combined with administrative records on ED use for the same people over the same 12-month look-back period. We estimated that Medicaid coverage increased the joint probability of a person’s having both an ED visit and an

office visit by 13.2 percentage points (standard error, 3.5).

We estimated separately the effect of Medicaid coverage on whether the person had an office visit and whether he or she had an ED visit; we used these estimates, together with Bayes’ rule, to predict the effect that Medicaid coverage would have on the joint probability of having both types of visits if the increases in the two types of visits were independent of each other. The predicted increase in the joint probability under the assumption of independence is 9.9 percentage points (standard error, 3.5), which is less than the estimate of the actual increase in the joint probability. We thus found no evidence that Medicaid coverage makes use of the physician’s office and use of the ED more substitutable for one another. If anything, the results suggest that it makes them complementary.

One possible reason for this finding is that the type of people who use more care when they gain Medicaid coverage are likely to increase use across multiple settings, including both the ED and

the physician's office. Another possible reason is that by increasing the use of primary care, Medicaid coverage may end up driving greater use of emergency care. For example, primary care providers may sometimes encourage patients to seek such care. One study participant we interviewed told us, "I went to the doctor's office one time and they said, no, you need to go to the ER because your blood sugar is way too high. It's going to take us hours to get it down. So you need to go to the ER."

For policymakers deliberating about Medicaid expansions, our results, which draw on the strength of a randomized, controlled design, suggest that newly insured

people will most likely use more health care across settings — including the ED and the hospital — for at least 2 years and that expanded coverage is unlikely to drive substantial substitution of office visits for ED use.

Disclosure forms provided by the authors are available at [NEJM.org](http://NEJM.org).

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## The United States and Cuba — Turning Enemies into Partners for Health

C. William Keck, M.D., M.P.H.

In June 2016, the U.S. Department of Health and Human Services (HHS) and Cuba's Ministry of Public Health signed an umbrella accord that promises to make health a cornerstone of the new era of cooperation between the two countries. The memorandum of understanding (MOU), signed by HHS Secretary Sylvia Mathews Burwell and Minister Roberto Morales Ojeda, is the latest expression of goodwill since the December 2014 rapprochement that renewed diplomatic relations and reopened embassies in Washington and Havana. According to the HHS announcement, the MOU "establishes coordination across a broad spectrum of public health issues, including global health security, communicable and non-communicable diseases, research and development, and information technology."<sup>1</sup> Fi-

nally the door has been opened for bilateral collaboration aimed at preventing and controlling diseases that affect people in both countries — including infectious threats such as Zika as well as cancer and other chronic conditions that are the main causes of death in the United States and Cuba.

Somewhat lost in the attention received by the MOU and the general progress of negotiations — which allow for expanded travel to Cuba for Americans — is the fact that Washington's six-decade embargo against Cuba is still in place. Although President Barack Obama's executive actions have reduced its reach, only Congress has the power to end the embargo altogether. Its restrictions seriously hamper the full collaboration promised in the MOU.

Why should Americans care? Although Cuba is relatively poor,

it has managed to make prevention-oriented primary care, as well as secondary and tertiary care, available to all its citizens. Today, markers of population health in Cuba compare favorably with those in the United States, and there are fewer geographic and urban-rural health disparities. Cut off from pharmaceuticals, medical devices, and other technology developed in the United States, Cuba has also invested heavily and successfully in biotechnology and related fields, as well as in strategies to address tropical and infectious diseases and chronic conditions common in its aging population.

As a result, the United States can learn a number of lessons from Cuba's experience — about the organization of medical services, the establishment of community-based programs to pro-