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New Evidence On The Affordable Care Act: Coverage Impacts Of Early Medicaid Expansions

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ABSTRACT The Affordable Care Act expands Medicaid in 2014 to millions of low-income adults in states that choose to participate in the expansion. Since 2010 California, Connecticut, Minnesota, and Washington, D.C., have taken advantage of the law's option to expand coverage earlier to a portion of low-income childless adults. We present new data on these expansions. Using administrative records, we documented that the ramp-up of enrollment was gradual and linear over time in California, Connecticut, and D.C. Enrollment continued to increase steadily for nearly three years in the two states with the earliest expansions. Using survey data on the two earliest expansions, we found strong evidence of increased Medicaid coverage in Connecticut (4.9 percentage points; $p < 0.001$) and positive but weaker evidence of increased coverage in D.C. (3.7 percentage points; $p = 0.08$). Medicaid enrollment rates were highest among people with health-related limitations. We found evidence of some crowd-out of private coverage in Connecticut (30–40 percent of the increase in Medicaid coverage), particularly for healthier and younger adults, and a positive spillover effect on Medicaid enrollment among previously eligible parents.

The Affordable Care Act (ACA) expands Medicaid eligibility in 2014 to adults with incomes of up to 138 percent of the federal poverty level in states that choose to participate in the expansion. Several states have already elected to take advantage of provisions in the ACA, enacted in 2010, that allowed them to extend Medicaid eligibility to some or all of the low-income adults targeted by the expansion. In combination with Section 1115 waivers under the Social Security Act, which give states the flexibility to design and pilot-test new approaches in Medicaid and the Children's Health Insurance Program, the ACA early expansion option has led to eligibility for people with incomes as high as 200 percent of poverty in some states.¹ As federal and state policy makers prepare for the 2014 Medicaid expansion, and states that are not

yet participating in it consider their options for the future, evidence on the enrollment impact of these early expansions may offer useful insights.

The low-income people most directly targeted by the Medicaid expansion under the ACA are childless adults.² They are people without dependent children who do not qualify for Medicaid in most states, regardless of how low their incomes are, because they do not fit into traditional categories for eligibility such as having a disability or being pregnant.³

The following four states recently extended Medicaid eligibility to some low-income childless adults who previously had not been eligible: Connecticut and Washington, D.C. (which we refer to as a state for brevity), in 2010, and California and Minnesota in 2011 (Exhibit 1).⁴

Notably, all four states already had locally or state-funded insurance programs for some of

EXHIBIT 1

Characteristics Of Early Expansions Of Medicaid Under The Affordable Care Act (ACA), 2010–11

State	Eligibility expansion		Medicaid expansion enrollment (through 2013)			Pre-ACA Medicaid enrollees (2009)
	Expansion population (percent of poverty)	Start date	Total expansion enrollees	Transfers from existing state or local programs	New enrollees	
CA ^a	As high as 200% (varied by county)	7/1/2011	515,000	59,000	456,000	6,900,000
CT ^b	Up to 56% or 68%, depending on region ^c	4/1/2010	91,000	45,000	46,000	444,000
DC ^d	Up to 200% ^e	7/1/2010	49,000	34,000	15,000	131,000
MN ^f	Up to 75%	3/1/2011	87,000	77,000	10,000	664,000

SOURCE Adapted with permission from Sommers B, et al. Lessons from early Medicaid expansions under health reform: interviews with Medicaid officials (Note 24 in text). Available from: <http://dx.doi.org/10.5600/mmrr.003.04.a02>. **NOTES** Enrollment figures were rounded to the nearest thousand and represent average monthly enrollment (for details about new versus transfer enrollment estimates, see below). In all four states, some childless nondisabled adults were eligible for state-specific programs, but Medicaid did not cover any childless adults—regardless of income—before these expansions. ^aBased on state enrollment statistics for new adults in the Low Income Health Program, as of March 2013, compared to the existing program (the Health Care Coverage Initiative, or HCCI). See California Department of Health Care Services. Quarterly reports: applicants, enrollment, and appeals and grievances [Internet]. Sacramento (CA): DHCS; 2013 [cited 2013 Dec 6]. Available from: http://www.dhcs.ca.gov/provgovpart/Documents/LIHP/Reports/DY%208-Qtr%202_EnrL_Rpt.pdf. Baseline eligibility for the HCCI varied widely by county, with a maximum income threshold of 250 percent of the federal poverty level for medically indigent adults and federal funds for the program capped prior to 2010. California's enrollment is county based, with different implementation start dates. Totals in Exhibit 1 include all expanding counties. (Exhibit 2 presents data only on the original expanding counties, to focus on the time course of enrollment from a shared implementation start date.) ^bBased on comparison of original enrollment after transfer from the State Administered General Assistance (SAGA) program as of April 2010, versus overall expansion (Husky D) enrollment as of June 2013. SAGA used the same income cutoff of 56 percent of poverty but incorporated an asset test (eliminated under the 2010 expansion) and had more limited coverage and provider networks than Medicaid. ^cIncludes \$150 earned income disregard per person. ^dBased on February 2013 enrollment statistics provided by the D.C. Department of Health Care Finance and an estimated transfer of 34,000 people from DC Health Alliance. DC Fiscal Policy Institute. The District of Columbia's Healthcare Alliance [Internet]. Washington (DC): DCFPI; [updated 2012 Apr 27; cited 2013 Dec 6]. Available from: <http://www.dcfpi.org/wp-content/uploads/2009/03/4-27-12-Alliance-Brief-FINAL1.pdf>. DC Health Alliance offered coverage to adults at up to 200 percent of poverty but had more limited mental health coverage and pharmacy benefits than Medicaid. ^eIncludes \$100 income disregard per household. ^fBased on a comparison of MinnesotaCare and General Assistance Medical Care (GAMC) populations that were transitioned to Medicaid at the outset of the expansion, versus March 2013 expansion enrollment statistics provided by the Minnesota Department of Human Services. GAMC had an income cutoff of 75 percent of poverty but also used an asset test (which was eliminated under the 2010 expansion). MinnesotaCare offered coverage as high as 250 percent of poverty but had a state cap on total spending that often limited enrollment.

these adults, although the administrative data presented below shows that these states also enrolled new people in Medicaid. Some of the new enrollees were adults who had been ineligible for the existing programs because their income was too high or their assets too great; others had been eligible but did not enroll until the Medicaid expansion, which offered more generous coverage than the preexisting programs.

This article examines these expansions to address four policy questions. First, how quickly did enrollment occur after expanded eligibility? Published projections differ about how rapidly the ACA expansion will take hold,^{5,6} a question that has important cost and enrollment implications.

Second, which newly eligible adults enrolled in the Medicaid expansion? Previous research suggests that childless adults are less likely than traditional Medicaid populations to enroll in Medicaid when they are eligible.⁷ However, particular subgroups—based on demographic characteristics or health status—may enroll at higher rates than other childless adults.

Third, to what extent did childless adults' new enrollment in Medicaid result from extending coverage to uninsured people as opposed to replacing private coverage (a phenomenon known

as “crowd-out”)? Previous analyses have found widely varying rates of crowd-out, ranging from essentially none to as much as 60 percent.^{8–11} However, most studies have focused on low-income parents, pregnant women, and children instead of childless adults, and they generally analyzed Medicaid expansions that occurred in the 1990s or earlier.

Fourth, was expanded coverage for childless adults accompanied by spillover effects, in which previously eligible but uninsured parents joined the program? This phenomenon, dubbed the “woodwork effect” or “welcome-mat effect,” has been a source of significant concern for states as they plan for the 2014 expansion.¹² States' concern stems from the fact that coverage for previously eligible people will be reimbursed at the traditional Medicaid federal match rate, which currently is about 50–75 percent, depending on the state. Under the ACA, in contrast, coverage for newly eligible adults will be reimbursed at 100 percent.

Study Data And Methods

DATA Our study used two data sources. First, we obtained official monthly Medicaid enrollment statistics from administrative records in each of

the four states, using published documents, information provided directly by the states, or both (see Exhibit 1 notes). We collected information on each state's expansion population by month and estimated the number of adults who had been enrolled in existing state or local insurance programs. These data provided extremely accurate depictions of changes in the states' Medicaid populations over time, but they could not provide insights into the expansions' effects on population-level coverage rates.

Second, we analyzed nationally representative survey data from the Census Bureau's American Community Survey (ACS) for the period 2008–11. Since 2008 this survey has collected information on health insurance coverage. The publicly available data set includes information on more than three million people each year, making the sample size adequate for state-specific subgroup analyses. The ACS also includes information on respondents' demographic characteristics and health-related limitations. These data allowed us to estimate changes in rates of insurance coverage in the expansion states relative to rates in nearby states that served as controls.

ANALYSIS Our analysis of administrative data was descriptive, summarizing monthly enrollment trends for the expansion population in each state and estimating the shares of new enrollees and of transfers from preexisting programs in those populations. Our goal was to estimate enrollment trends over time and to provide context for the nature of the expansions in each state.

Our survey-based analysis necessarily focused on Connecticut and Washington, D.C., since these were the only two expansions to begin in 2010. California and Minnesota began enrolling eligible adults in 2011, and no post-expansion microdata were available for them from the ACS at the time of our analysis.

Our study design was a difference-in-differences analysis. We calculated the change in coverage from pre-expansion (2008–09) to post-expansion (2011) in expansion states, using as comparators nearby states with no expansions. We compared Connecticut to the other states in the Northeast census region: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, and New Jersey.

We compared D.C. to Virginia. We would have liked to use Maryland as well, but Maryland implemented a new limited coverage option for childless adults beginning in 2009, which made it an inappropriate comparison state.

We omitted 2010 data from our analysis because it was a transitional year. The ACS does not identify the month when respondents were interviewed, which prevented us from distin-

The low-income people most directly targeted by the Medicaid expansion under the ACA are childless adults.

guishing between information provided before the expansions and that provided afterward.

We examined the following three outcomes: coverage through Medicaid (which in the ACS includes “Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability”); private health insurance; and being uninsured. We used linear probability models to estimate the impact of the Medicaid expansion on each outcome, compared to the comparison group, because these models make it easier to interpret difference-in-differences estimates than logistic models do.¹³

Analyses were conducted separately for the two expansions. All analyses adjusted for the following variables: age, sex, race or ethnicity, income, employment status, marital status, citizenship, education, and a linear time trend.

Because the Medicaid expansion is a state-level intervention and the ACS provides individual-level data, we used robust standard errors clustered at the state level for our analysis in Connecticut.¹⁴ However, this approach can lead to false positive findings in samples with a small number of clusters. In our analysis of D.C. (which had just two clusters), we therefore used the ACS's replicate weights to estimate variance, which yielded more conservative standard errors.¹⁵

The primary sample was defined based on the expansion population in each state: childless adults ages 19–64 with family incomes below 56 percent of poverty in Connecticut, and up to 200 percent of poverty in D.C. Secondary analyses considered low-income parents in these states. Family income was calculated for the health insurance unit, which included each adult, his or her spouse, and any dependent children age eighteen or younger.¹⁶

The sample of individuals in each comparison state used the same income criteria as the sample in the corresponding expansion state. We excluded from our sample noncitizens who had been in

the United States for less than five years, since they were not eligible for Medicaid.

For subgroup analyses, we examined the following variables of interest: age (19–35 versus 36–64), sex, race or ethnicity (white non-Latino versus nonwhite or Latino), income (less than 138 percent of poverty versus 138–200 percent of poverty, applicable only in D.C.), and the presence of any health-related limitations. We characterized anyone answering “yes” to at least one disability-related question in the ACS (which includes items related to sensory, physical, mental, self-care, outside-of-home, and employment disabilities)¹⁷ as having a health-related limitation. Of the people in our sample, 20.2 percent met this criterion.

We tested for any spillover effects on other adults by examining Medicaid coverage rates for low-income parents (using the same income cutoffs described above), who were already eligible for Medicaid in each state prior to the 2010 expansion.

Finally, we conducted the following sensitivity analyses: excluding all noncitizens from the sample; excluding people receiving Supplemental Security Income (SSI), who typically qualified for Medicaid coverage even before the expansion; considering alternative income cutoffs for eligible parents; adjusting for state annual unemployment rates; and using alternative comparison groups (subsets of Northeastern states for Connecticut; and Virginia and Delaware or only urban areas of Virginia for D.C.).

LIMITATIONS Our analysis has several limitations. First, the experiences of the states in our study might not be generalizable to states expanding Medicaid in 2014, for several reasons. The study states used different income cutoffs than the ACA’s threshold of 138 percent of poverty. The political climate in these states was generally quite supportive of the Medicaid expansion, which might not be the case in other states. The study states also expanded coverage to differing degrees, depending on prior locally or state-funded programs that covered some low-income childless adults. Any single state’s experience could have been affected by numerous local economic, political, and policy factors that might not affect other states.

The ACS data set has limitations as well. The ACS distinguishes between citizens and noncitizens, but it does not distinguish between documented and undocumented immigrants, and members of the latter group are not eligible for Medicaid. In addition, the ACS health insurance data were not collected prior to 2008, limiting our pre-expansion period to two years. Furthermore, the survey does not attempt to distinguish between state-funded public insur-

ance and Medicaid.

Lastly, the difference-in-differences approach is subject to bias if time-varying factors (other than the expansion) differentially affected expansion versus control states during the study period. In particular, it was difficult to identify an ideal comparator for Washington, D.C., a large city with very low baseline uninsurance rates. However, we examined the pre-expansion patterns of coverage over time in the expansion and control states. There were no obvious differences in trends between the expansion and control states in the 2008–09 period, and our results were similar when we used alternative control groups for D.C. or Connecticut.

Study Results

In their coverage expansions, all four states both transferred enrollees from existing programs to Medicaid and enrolled new beneficiaries in Medicaid (Exhibit 1). The proportion of new enrollees varied, accounting for approximately one-tenth of the expansion population in Minnesota, one-third in D.C., slightly more than half in Connecticut, and the vast majority in California.

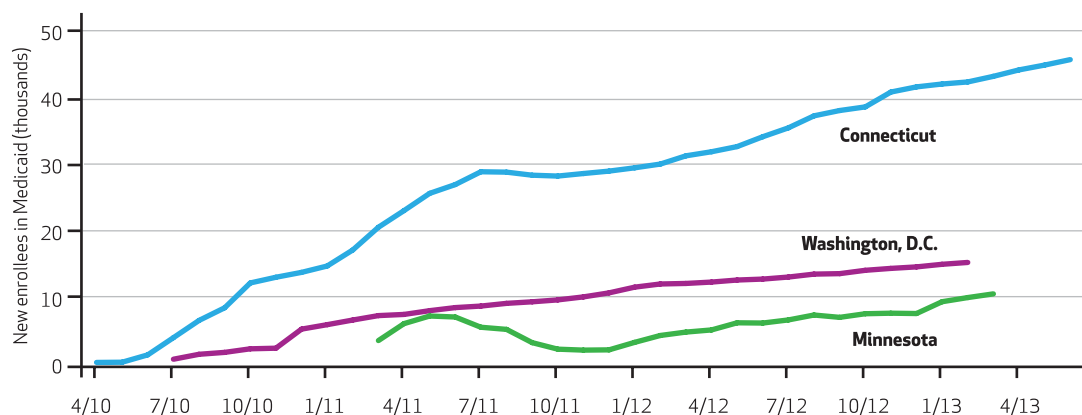
Ramp-up of new enrollment was gradual, with linear trends in three of the four states (Exhibits 2 and 3). Connecticut and D.C. experienced steadily rising enrollment throughout the study period. California’s enrollment curve (limited to those counties that expanded coverage starting in 2011) shows a similar pattern. Minnesota’s enrollment fluctuated significantly in the early months of the expansion; however, total new enrollment in the program was fairly small, which might exaggerate normal economic or seasonal variation in the portion of total Medicaid enrollment that we designated as new enrollment.

Appendix Exhibit 1 presents unadjusted coverage estimates from the ACS for 2008–11 in D.C. and Connecticut, versus the respective comparison states.¹⁸ As expected, baseline coverage levels in D.C. and Virginia were quite different, with much higher Medicaid rates and lower uninsurance rates in D.C. However, the 2008–09 trends in Medicaid and uninsurance rates were similar for both the expansion and respective comparison states, which was the key underlying assumption of the difference-in-differences approach.

The regression-based difference-in-differences estimates for coverage changes in D.C. versus Virginia show that among childless adults with incomes below 200 percent of poverty, the expansion was associated with a 3.7-percentage-point increase in Medicaid coverage (Exhibit 4). The result is one of borderline statistical signifi-

EXHIBIT 2

Monthly Enrollment In Medicaid Expansions In Connecticut, Minnesota, And Washington, D.C., Excluding Transfers From Existing State Programs



SOURCES Authors' interviews with state officials and published enrollment statistics. **NOTES** Monthly enrollment figures are taken directly from each state's administrative data, excluding individuals transferred from existing state or local insurance programs, as listed in Exhibit 1. Each line starts at the first month of the state's expansion and ends at of the most recent month for which data were available. Minnesota's enrollment decline in the first few months is likely an artifact of our method for estimating new enrollment. For these figures, we subtracted from monthly enrollment each state's best estimate of the number of people who transferred from the existing programs described in Exhibit 1. However, there was a month-to-month fluctuation in each state's overall expansion enrollment, based on economic and seasonal variation. Given our method—which subtracted the same fixed transfer estimate each month—the full variation in enrollment for Minnesota's 87,000 expansion population appears here in the new enrollment estimates, which never exceeded 10,000. The net effect is a much noisier enrollment trend for Minnesota than for other states, because Minnesota's new enrollment reflected a fairly small proportion of the overall expansion.

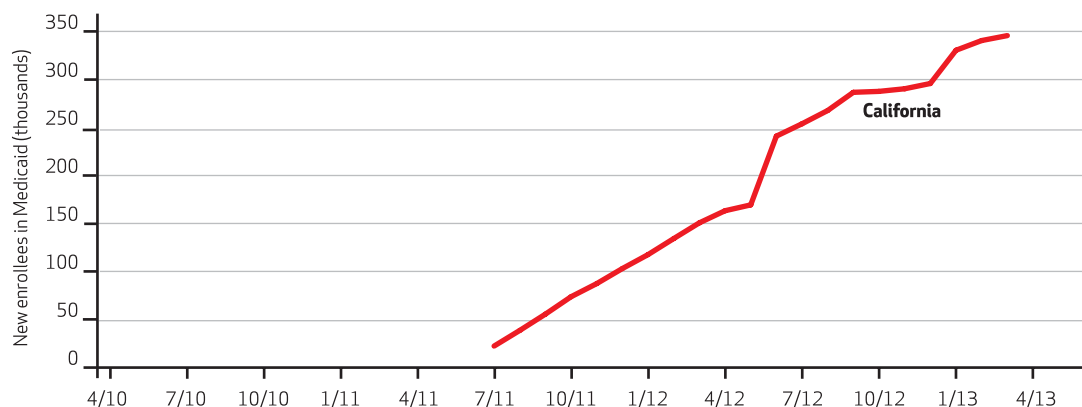
cance ($p = 0.08$). Changes in the uninsurance and private coverage rates were not statistically significant. Among subgroups, Medicaid coverage gains were statistically significant for older adults and those with incomes of 138–200 percent of poverty. There was no increase in Medic-

aid coverage among low-income parents who had already been eligible for the program before 2010.

Connecticut's expansion was associated with a statistically significant 4.9-percentage-point increase in Medicaid coverage among childless

EXHIBIT 3

Monthly Enrollment In Medicaid Expansion In California, Excluding Transfers From Existing State And Local Programs



SOURCES Authors' interviews with state officials and published enrollment statistics. **NOTES** Monthly enrollment figures are taken directly from the state's administrative data, excluding individuals transferred from existing state and local insurance programs, as listed in Exhibit 1. The figure includes enrollment only in those California counties with expansions that began in June 2011. Several additional counties had expansions that began in 2012, but those data are not included here to preserve a consistent frame of reference for enrollment ramp-up. Thus, the totals for California in Exhibit 1 exceed those depicted here.

EXHIBIT 4
Difference-In-Differences Estimates Of The Coverage Impact Of Medicaid Expansions, 2008–11

State and subgroup	Medicaid		Uninsured		Private insurance		Sample (n)
	Baseline coverage	Net change	Baseline coverage	Net change	Baseline coverage	Net change	
D.C. VS. VIRGINIA							
All childless adults	36.0%	3.7%*	16.9%	-2.8%	48.8%	-0.1%	35,013
With health-related limitation	70.3	6.4	9.1	-3.7	22.9	3.5	7,920
Without health-related limitation	27.6	3.0	18.8	-2.5	55.1	-0.8	27,093
Male	35.0	2.4	21.1	-2.6	46.2	0.0	18,915
Female	37.1	5.3*	12.7	-3.3	51.4	-0.2	16,098
White non-Latino	5.9	5.0*	8.4	-2.4	86.4	-0.7	20,215
Latino or nonwhite	45.8	2.1	19.6	-3.9	36.6	2.1	14,798
Ages 36-64	52.9	6.4**	16.5	-3.7	32.5	1.1	17,225
Ages 19-35	21.7	2.8	17.2	-1.2	62.6	-2.6	17,788
Income <138% of poverty	39.3	3.1	16.6	-1.1	46.0	-2.0	25,504
Income 138-200% of poverty	21.8	8.2**	18.2	-7.1	60.7	4.7	9,509
Parents	68.0	-2.0	6.9	4.4*	30.7	-1.0	11,146
CONNECTICUT VS. OTHER NORTHEAST STATES							
All childless adults	26.1	4.9***	31.0	-2.8**	41.4	-2.0***	109,292
With health-related limitation	50.4	14.4***	24.0	-11.2***	19.5	-1.7***	23,321
Without health-related limitation	19.6	2.6**	32.8	-0.7	47.2	-2.2***	85,971
Male	24.6	7.3***	36.3	-2.4	37.2	-5.8***	59,414
Female	27.9	1.5***	24.6	-2.8***	46.3	2.6***	49,878
White non-Latino	19.0	5.6***	26.8	-2.9***	52.2	-0.8	66,466
Latino or nonwhite	36.3	3.7**	37.1	-2.5	25.5	-3.8***	42,826
Ages 36-64	37.6	4.3**	34.0	-6.5***	23.1	3.8***	47,477
Ages 19-35	17.6	5.5***	28.8	-0.9	54.7	-5.6***	61,815
Parents	60.6	2.7***	20.9	-4.6***	21.1	2.1***	24,892

SOURCE Authors' analysis of data from the 2008–11 American Community Survey. **NOTES** Each analysis included two years of pre-expansion data (2008–09) and one year of post-expansion data (2011), omitting 2010 as a transitional year. Analyses adjusted for income, employment status, marital status, race or ethnicity, education, citizenship, age, sex, a linear time trend, and pre- versus post-expansion. Standard errors for Connecticut analyses were clustered at the state level ($N = 9$ clusters). The D.C. analysis, which only had two comparison states, used a more conservative variance estimator based on the ACS's replicate weights. See the Methods section for full details. Baseline coverage refers to average coverage rates for the group in question in Connecticut or D.C. prior to the expansion, based on 2008–09 data from the American Community Survey. Net change is the difference-in-differences estimated change for each category of coverage. All estimates are linear probability models reporting percentage-point changes among adults ages 19–64 meeting income eligibility criteria who are either US citizens or immigrants with at least five years of residence in the United States. In Connecticut, which had varying eligibility cutoffs within the state, the state's most common eligibility threshold by population (56 percent of poverty) was used to maintain a consistent sample with the comparator states. For D.C., the cutoff was 200 percent of poverty. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

adults with incomes below 56 percent of poverty, a 2.0-percentage-point decline in private coverage, and a 2.8-percentage-point decline in the uninsurance rate (Exhibit 4). Medicaid coverage gains were markedly higher among childless adults reporting any health-related limitations, with a concurrent decline in the uninsurance rate of nearly 50 percent. Among low-income parents, who were already eligible for Medicaid before the 2010 expansion, Medicaid coverage increased by 2.7 percentage points ($p < 0.01$).

Sensitivity analyses presented in the online Appendix¹⁸ generally showed results of similar magnitude, whether we included or excluded noncitizens, people receiving SSI, or the state unemployment rate. However, there were some notable differences. In several analyses, the overall Medicaid increase for childless adults in D.C. was not statistically significant ($p > 0.10$), but

most analyses continued to show significant effects for subgroups in D.C., including older adults, women, and whites. When we excluded SSI recipients, we found no significant subgroup gains in Medicaid in D.C. In contrast, results of analyses using urban areas of Virginia as the control for D.C., or adding Delaware, resembled the baseline results.

Key findings for Connecticut were more robust. When we limited the sample to two control states, several estimates were not significant or only marginally significant ($p < 0.10$). However, the estimated coverage changes were quite similar to those from other sensitivity analyses. In all other models, key findings from Connecticut were generally similar to those in our primary analysis. See the online Appendix for full details.¹⁸

Discussion

In our analysis of early ACA Medicaid expansions targeting low-income childless adults, several of our findings had policy relevance for the 2014 expansion and beyond.

SPEED OF ENROLLMENT Enrollment increased gradually over time. Indeed, in two states it increased for three years without slowing. A key implication of this pattern is that the initial enrollment reports likely to emerge in the early months of the Affordable Care Act's full Medicaid expansion¹⁹ might not be an accurate indication of the law's ultimate success at expanding coverage.

Of course, it is important to underscore that the early expansions we studied differed in several critical ways from the Medicaid expansions planned for 2014. The national expansions are being accompanied by greater publicity and outreach than these smaller-scale expansions were, and in 2014 the individual mandate for coverage will take effect. Furthermore, some states will use targeted outreach and automatic enrollment for uninsured people in 2014 based on their enrollment in the Supplemental Nutrition Assistance Program (formerly known as food stamps) or other programs.²⁰

These factors might lead to more rapid Medicaid enrollment than we observed in our study. Alternatively, problems with information technology during the ACA's initial open enrollment period for the exchanges might slow the rate of coverage gains for Medicaid.

Overall, our findings echo those from another relatively recent expansion of public insurance, the creation of the Children's Health Insurance Program in 1997. Enrollment in that program was slow at first but then grew robustly, taking more than five years to level off.²¹

WHO ENROLLED? Enrollment gains in the first year after the expansions in our study states occurred disproportionately among adults with health-related limitations—a finding that is consistent with prior studies of Medicaid participation.⁷ Previous research indicates that the newly eligible population might be somewhat healthier on average than the current Medicaid population.²² However, the people who enroll (at least initially) will likely be in worse health than newly eligible adults who do not enroll.

This pattern has clear cost implications. It also suggests that Medicaid expansions will offer the prospect of coverage to a group of adults with significant health care needs who may particularly benefit from expanded access to care.

For the eligible childless adult population in Washington, D.C., we found only borderline significant increases in Medicaid coverage that were sensitive to the particular model analyzed.

This might be because most of D.C.'s new enrollees had previously been in Health Alliance, a means-tested public program, and the ACS's question design likely identified them as being enrolled in Medicaid.

A similar pattern in national survey data might occur in 2014 as well, since nearly a dozen of the states expanding coverage then (not including the early expanders studied here) will be building upon previous state-funded or waiver programs for childless adults.^{3,23} Nonetheless, even this replacement of state-funded insurance with Medicaid could have potential impacts on enrollees' health, since Medicaid typically offers more generous coverage than state programs do.^{3,24}

Interestingly, we found evidence that the expansion in D.C. was most successful at increasing enrollment among adults at higher income levels (138–200 percent of poverty, compared to less than 138 percent). This higher-income income group is not part of the ACA's Medicaid expansion. However, many people in this group will become eligible for tax credits for coverage through an insurance exchange starting in 2014. It is not clear whether take-up of that coverage, which will involve paying premiums, will be as high as the take-up of Medicaid that was observed in D.C.'s early expansion.

This finding suggests that states considering the ACA's Basic Health Program option for 2015, which creates a state health plan instead of premium tax credits for families with incomes of 138–200 percent of poverty, might be able to attain relatively high take-up rates.

CROWD-OUT We found evidence that private coverage in Connecticut declined after its Medicaid expansion, but that was not the case in D.C. Our primary estimates imply that roughly 60 percent of new Medicaid enrollees in Connecticut had been uninsured and 40 percent had had private coverage (roughly 30 percent had had employer-sponsored coverage, and 10 percent had had nongroup coverage)—figures well within the range of crowd-out estimates from previous research.^{8,9} In our sensitivity analyses, crowd-out estimates were 31–50 percent (see the online Appendix).¹⁸

It might be somewhat surprising that 40 percent of this very low-income population had private insurance at baseline. However, this coverage was concentrated among young adults: 66 percent of adults ages 19–25 and 80 percent of full-time students had private coverage, compared to just 23 percent of adults older than 35. Presumably, many of these young adults had obtained coverage or assistance paying premiums from their parents. Nearly all of the increase in Medicaid coverage for young adults in Connecticut after the expansion was offset by a de-

Our data suggest that enrollment may continue to rise well beyond the first year of the expansion.

cline in private coverage, echoing a concern raised by state officials that the expansion's unexpectedly high enrollment was partly because young adults were dropping private coverage to enroll in Medicaid.²⁵ In contrast, there was far less crowd-out of private coverage among adults with health-related limitations.

The D.C. point estimates suggest little or no crowd-out of private coverage. However, changes in the uninsurance and private coverage rates were not statistically significant. These findings made it difficult to draw firm conclusions about crowd-out in D.C.

To put the findings for Connecticut in context, it is important to note a growing literature^{26,27} suggesting that transferring from private coverage to Medicaid is not necessarily an adverse outcome, particularly for people with very low incomes. Crowd-out increases public spending, but it may also improve the quality of coverage. We did not have data on benefits or cost sharing for people with private insurance, which made it difficult to compare their previous coverage directly with Medicaid. But recent studies have found that Medicaid provides better financial protection for low-income adults than private coverage does and reduces the risk of underinsurance.^{26,27} Switching to public coverage might be particularly advantageous for those in the nongroup insurance market, where coverage is typically much less generous.

THE WOODWORK EFFECT We found evidence of a positive spillover from the Medicaid expansion in Connecticut to childless adults, with a concurrent increase in coverage among previously eligible low-income parents. Connecticut's expansion was accompanied by substantial media coverage related to the eligibility changes,²⁸ a

lawsuit related to enrollment delays, and a revised waiver proposal that the state made to the Centers for Medicare and Medicaid Services,²⁹ all of which might have contributed to greater awareness of the expansion.

Furthermore, this positive spillover was consistent with estimates of the woodwork effect of Massachusetts's 2006 health reform.^{30,31} Presumably, the woodwork effect in 2014 will be even larger than what we detected, because the individual mandate for insurance will go into effect, coverage will become available through exchanges, and there has been greater national media attention. In fact, early reports on the ACA's open enrollment suggests that this woodwork effect will occur in 2014 because of these latter factors: Medicaid enrollment has increased significantly since October 2013, even in states without Medicaid eligibility expansions.¹⁹

We did not find any spillover effect of the expansion in D.C. However, previous research on take-up rates consistently shows D.C. to have one of the two highest rates of Medicaid participation in the country among eligible adults.^{32,33} Thus, there might not have been much room for any increase.

Conclusion

Our study provides new information on the impact of expanded Medicaid eligibility on low-income Americans, particularly on the relatively understudied population—childless adults—that is the focus of the 2014 expansions. Our data suggest that enrollment may continue to rise well beyond the first year of the expansion, although greater public awareness and use of automated enrollment approaches could accelerate this process.

At least initially, a disproportionate number of new enrollees are likely to be in poor health. And there will probably be positive spillover effects on groups of people already eligible for Medicaid and some crowd-out of private coverage, depending on the population.

Understanding who is likely to enroll in Medicaid under the Affordable Care Act's expansion of coverage—and when—is critical to the success of the expansion. It is also crucial to creating appropriate expectations for the law's effects in the coming years. ■

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NOTES

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