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Medicaid 'Welcome-Mat' Effect Of Affordable Care Act Implementation Could Be Substantial

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ABSTRACT The Affordable Care Act will have important impacts on state Medicaid programs, likely increasing participation among populations that are currently eligible but not enrolled. The size of this "welcomemat" effect is of concern for two reasons. First, the eligible but uninsured constitute a substantial share of the uninsured population in some states. Second, the newly eligible population will affect states' Medicaid caseloads and budgets. Using the Massachusetts 2006 health reforms as a case study and controlling for other factors, we found that among lowincome parents who were previously eligible for Medicaid in Massachusetts, Medicaid enrollment increased by 16.3 percentage points, and Medicaid participation by those without private coverage increased by 19.4 percentage points, in comparison to a group of control states. In many states the potential size of the welcome-mat effect could be even larger than what we observed in Massachusetts. Our analysis has potentially important implications for other states attempting to predict the impact of this effect on their budgets.

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he Affordable Care Act will have important impacts on state Medicaid programs, even in light of the 2012 Supreme Court decision that made it optional for states to expand Medicaid to parents and childless adults with incomes at or below 133 percent of the federal poverty level. In all states health insurance exchanges will provide access to subsidies for private health insurance—operated by states, the federal government, or a state-federal partnership. Even in states that do not implement the Medicaid expansion, the presence of either a state-based or federally facilitated health insurance exchange coupled with the individual mandate to obtain health insurance coverage is likely to have an impact on participation in Medicaid by people who are eligible under the current rules but have not enrolled. In addition, changes to the operation of Medicaid, such as streamlined procedures for application and renewal

of eligibility, are likely to make it easier for people to enroll in Medicaid.

The size of the population that is Medicaid eligible but uninsured varies across states, constituting more than 5 percent of the entire population in some states. Making significant progress toward reducing the rate of uninsurance thus depends on increased Medicaid participation among people who are eligible but not enrolled. However, the potential for increased Medicaid enrollment among currently eligible populations is a sizable fiscal concern for states. Although the Affordable Care Act provides 100 percent federal funding (eventually phasing down to 90 percent) for newly eligible Medicaid populations, states will receive lower federal matching rates (in 2012 these rates ranged from 50 percent to 74.2 percent)² for Medicaid enrollees who meet the state eligibility requirements that were in place December 1, 2009. As a result, estimating the size of this "welcome-mat" effect—sometimes also called the "woodwork effect," as people previously unknown to the state enroll in the program—is a key consideration for states in projecting the Affordable Care Act's impact on their budgets. However, there is little research evidence available to inform states' assumptions and projections about Medicaid participation for these populations.

In this article we assess the act's potential impact on participation rates of people who are currently eligible but not enrolled in Medicaid, using the landmark 2006 Massachusetts health reform as a case study. The experience of Massachusetts is particularly relevant because that state is the only one to have implemented reforms of a scale and scope similar to those of the Affordable Care Act, albeit in only one state. Prior to the 2006 Massachusetts law that established an individual mandate to obtain coverage, created a health insurance exchange, and provided substantial subsidies for lower-income people to obtain coverage, parents in Massachusetts with incomes at or below 133 percent of poverty were eligible for Medicaid. We examined participation rates in Medicaid for this group between 2003 and 2011, to better understand how the Affordable Care Act might affect Medicaid participation for people in other states who are eligible but not enrolled.

Previous Research

Previous research on Medicaid participation rates has focused primarily on overall Medicaid participation rates, the impacts of coverage expansions, or factors influencing Medicaid participation.3,4 In a study of such factors across states, Benjamin Sommers and colleagues found a large increase in Massachusetts Medicaid participation after implementation of its 2006 reform law; that study, however, focused on participation among the eligible population as a whole, not just those eligible prior to the reforms.4 One analysis of the impact of the Children's Health Insurance Program found that half to two-thirds of the new enrollment occurred among children who qualified under pre-expansion eligibility rules.⁵ Finally, one recent analysis estimated the size of the Medicaideligible but uninsured population by state, placing something of an upper bound on the size of the Affordable Care Act welcome-mat effect (assuming the vast majority of increased Medicaid enrollment would come from the currently uninsured population). However, it did not attempt to estimate how many will enroll.1

Another study by Sommers, Richard Kronick, and colleagues provides an excellent summary

of previous studies on Medicaid participation rates; it found a range of 52-81 percent, with most studies estimating national average rates under 70 percent.³ The variation in estimates was attributed to the data source used and adjustments to the estimates that were made, including whether the researchers adjusted for the socalled Medicaid undercount; whether Supplemental Security Income recipients were included; and whether adjustments were made for survey respondents who might have been undocumented US residents. The studies included in that review also document significant variation in participation across states, with participation rates more than twice as high in some states as in others.

Although the research evidence to date provides substantial information about Medicaid participation rates, there is little empirical evidence to support assumptions about the impact of the Affordable Care Act on Medicaid participation of those who are currently eligible but not enrolled.

Study Data And Methods

We used a difference-in-differences design that compared Medicaid coverage of low-income parents in Massachusetts before and after the implementation of the state's reforms to changes in four neighboring states over the same time period. By subtracting the change in the control states from the change in Massachusetts, we removed any portion of the change in Massachusetts that was unrelated to the implementation of reform. The assumption underlying this design was that changes in the control states accurately represent what would have happened in Massachusetts had reform not taken place. Our approach was similar to that used in other analyses of the impact of state reforms, including Massachusetts's health reform.^{6,7} We included state and year fixed effects to control for any stable state or year characteristic that could bias our result. We also controlled for demographic characteristics, as described below.

parents ages 19–64 who resided in Massachusetts, New York, Maine, Vermont, or Rhode Island. Childless adults were excluded because they had different income eligibility thresholds, if they were eligible at all. We further restricted our sample by excluding groups that had alternative eligibility pathways: people who received Supplemental Security Income and women with children under age one (who could have been eligible based on pregnancy status).

We chose control states that are neighbors of Massachusetts (since they presumably

experienced similar regional economic trends) and that had relatively stable eligibility thresholds for parents over the study period. Like Massachusetts, all four of our comparison states have relatively generous eligibility standards for low-income parents. In each state we defined the income-eligible population as parents who would have been eligible in any year of our study period.

We performed separate analyses of Medicaid participation and enrollment. The participation rate was defined as Medicaid enrollment (the numerator) divided by the sum of Medicaid enrollment and the number of uninsured people. The enrollment rate used the same numerator but included all parents who met the income eligibility criteria for Medicaid in the denominator. It was useful to perform the analysis using both of these measures, because although the participation rate was a more targeted look at people who would lack coverage except for the availability of Medicaid, its denominator could be influenced by changes unrelated to Medicaid participation. The enrollment rate was a higher-level view of Medicaid enrollment, but its denominator was more robust to changes unrelated to Medicaid participation. For example, if uninsured lowincome parents were gaining private coverage as a result of the reforms, but Medicaid enrollment stayed the same, then the participation rate would increase even though there was no change in Medicaid enrollment. However, the more broadly defined enrollment rate would show no change. The "enrollment" sample consisted of 8,643 individuals, and the "participation" sample consisted of 6,160 individuals. We observed the sample for three years prior to the full implementation of the Massachusetts reform (in 2007) and five years after its implementation.

DATA SOURCES We used data from an augmented version of the 2004-12 Annual Social and Economic Supplements to the Current Population Survey, containing information on health insurance for calendar years 2003-11. This survey collects data on health insurance coverage, family income, and other sociodemographic characteristics. It is representative of all fifty states and the District of Columbia. We used an augmented version of the Current Population Survey to correct for a known limitation that causes state-level estimates of health insurance coverage to be biased toward the national average; this augmentation is known as the SHADAC-Enhanced Current Population Survey.8-11 Without this augmentation, state health insurance estimates are biased because more than 10 percent of respondents do not answer the health insurance questions and the Census Bureau's method for imputing missing

health insurance status is not state-specific. A more detailed description of this issue and our data file is available in the online Appendix.¹²

We defined *Medicaid coverage* as any Medicaid, state program, or other means-tested coverage held at any point in the previous calendar year. The survey tracks Medicaid coverage specifically; however, past literature on survey methods suggests a fair amount of misclassification between Medicaid and other means-tested coverage. ¹³ The Appendix contains results using a more narrowly defined Medicaid variable in the Current Population Survey data. ^{11,12}

Family income was defined by grouping household members into health insurance units that comprise spouses and children under age nineteen and then summing personal income within health insurance units. ¹⁴ We compared the family income variable to the federal poverty guidelines published by the Department of Health and Human Services, to generate a measure of family income as a percentage of poverty.

Information on income eligibility thresholds, expressed as a ratio of family income to poverty guidelines, came from the Kaiser Commission on Medicaid and the Uninsured's annual surveys of state Medicaid agencies. ¹⁵ We used income thresholds for parental coverage that was provided without any premium contribution requirements. We cross-checked the Kaiser data against information obtained directly from state agencies, and in some situations we overwrote a Kaiser value when it was contradicted by reliable information obtained from states.

ANALYSIS We used logistic regression to implement our difference-in-differences models. The *treatment* was defined as residence in Massachusetts, and the *post period* was defined as 2007–11. This aligned with the period after which reform had been fully implemented. We report model results as adjusted probabilities. This approach avoided the difficulty of interpreting interaction terms from nonlinear models, and it allowed us to report an intuitive measure of effect size, rather than odds ratios. ¹⁶ All of our analyses adjusted for the complex nature of the sample design. More details on our model are available in the Appendix. ¹²

Exhibit 1 shows the variables that were included in our model and provides descriptive information on the characteristics of the study population. Two-thirds of the participation sample had Medicaid coverage at some point in the year prior to the survey. The participation sample comprised mainly parents ages 26–44 and contained a high share of nonwhites, women, and people with no more than a high school education. In the enrollment sample, 49 percent had Medicaid. Compared to the participation

EXHIBIT 1

Descriptive Statistics For The Participation And Enrollment Samples, Study Of Medicaid Expansion In Massachusetts And Comparison States

Particination

Enrollment

	Participation sample (N = 6,160)		Enrollment sample (N = 8,643)	
Category Medicaid or other means-tested coverage	Mean 0.66	SD 0.473	Mean 0.49	SD 0.500
STATE				
MA NY ME VT RI	0.14 0.75 0.05 0.02 0.04	0.344 0.433 0.226 0.144 0.191	0.14 0.74 0.06 0.02 0.04	0.347 0.438 0.231 0.147 0.197
AGE (YEARS)				
19-25 26-44 45-64	0.10 0.66 0.23	0.305 0.472 0.422	0.09 0.66 0.25	0.287 0.475 0.435
SEX				
Male	0.34	0.475	0.36	0.479
RACE OR ETHNICITY				
Hispanic White only, non-Hispanic Black alone or in combination, non-Hispanic Other race, non-Hispanic	0.34 0.35 0.19 0.12	0.473 0.478 0.389 0.325	0.29 0.40 0.18 0.12	0.456 0.491 0.385 0.325
MARITAL STATUS				
Married	0.52	0.500	0.54	0.499
EDUCATION				
Less than high school grad High school grad Some college College or more	0.32 0.40 0.14 0.14	0.466 0.490 0.348 0.350	0.28 0.39 0.15 0.18	0.448 0.489 0.356 0.383
EMPLOYMENT				
Did not work past year Worked part time past year Worked full time past year No workers in HIU Workers in HIU employed in small firm Workers in HIU employed in medium-size firm Workers in HIU employed in large firm	0.40 0.19 0.41 0.26 0.37 0.09 0.28	0.489 0.394 0.492 0.438 0.483 0.281 0.450	0.37 0.18 0.45 0.23 0.34 0.09 0.34	0.482 0.387 0.497 0.419 0.473 0.288 0.474
CITIZENSHIP				
US citizen	0.69	0.462	0.72	0.447

SOURCE State Health Access Data Assistance Center (SHADAC)–Enhanced CPS, 2004–12. **NOTES** SD is weighted standard deviation. HIU is health insurance unit.

sample, people in the enrollment sample were more likely to be white, have higher educational attainment, and be employed.

LIMITATIONS The validity of our results depends on the assumption that the situation in the control states is an accurate reflection of what would have happened in Massachusetts had its reforms not been enacted. We used several control variables in the Current Population Survey to help ensure that this assumption was correct, and we considered alternative specifications and found that our results were robust. However, all difference-in-differences studies

run the risk that some unobserved factor that occurs at the same time as the introduction of the treatment contributes to the effect of interest and can potentially bias the estimate.

We also note that our study period coincided with the Great Recession, and it is possible that macroeconomic conditions were different in the control states than in Massachusetts. However, for this to have biased our results, it would have had to be some macroeconomic trend that was not captured by things that we observed—such as employment status and the distribution of employment by firm size. The fact that our treatment and control states are in close geographic proximity should also help limit potential bias.

The Current Population Survey is known to undercount Medicaid enrollment by as much as 43 percent.¹³ As long as misclassification of insurance coverage was uniform across states and time, this should not have biased our results. However, one effect of the Massachusetts reform could have been to educate the population on insurance in general. As a result, Medicaid reporting could have improved in Massachusetts in a way that it did not in the control states. Nonetheless, we believe that any such effect would not have been large enough to account for more than a small share of the difference we observed between Massachusetts and our control states.

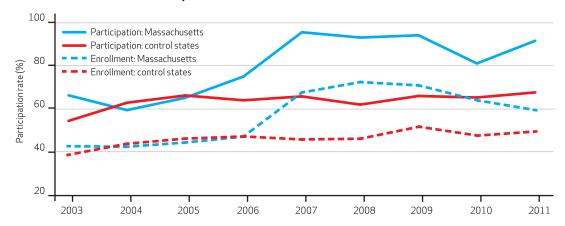
Study Results

INCREASED PARTICIPATION AND ENROLLMENT

Medicaid participation and enrollment among low-income parents increased substantially in Massachusetts compared to the control states (Exhibit 2). In Massachusetts the participation rate increased from 65 percent in 2005 to a high of 95 percent in 2007, coinciding with the implementation of reform. From its high point, the rate declined first gradually and then sharply in 2010, but it rebounded in 2011. In the control states the participation rate rose moderately in the early part of the study period, similar to the experience in Massachusetts but then leveled off and remained relatively constant, at approximately 65 percent, through 2011.

Exhibit 2 suggests that the reform experience in Massachusetts led to a sizable welcomemat effect. However, the effect observable in Exhibit 2 could be biased by other factors that distinguish Massachusetts and its neighbors. Exhibit 3 presents the results of our logistic regression models, which controlled for the demographic variables presented in Exhibit 1 and for state and year fixed effects. The participation rate in Massachusetts changed by a statistically significant 21.7 percentage points after reform.





SOURCE Authors' analysis of data from the State Health Access Data Assistance Center (SHADAC)–Enhanced CPS 2004–12. **NOTE** Participation and enrollment rates are defined in the text.

In the control states the participation rate changed by a nonsignificant 2.3 percentage points. The difference of 19.4 percentage points is the effect attributable to Massachusetts reforms. In other words, the difference-in-differences results demonstrate a substantial welcome-mat effect for previously eligible low-income parents net of other secular trends.

In the enrollment rate analysis, the differencein-differences estimate was smaller, as we expected, but still statistically significant and substantively meaningful. The Medicaid enrollment rate among previously eligible low-income parents in Massachusetts increased by 16.3 percentage points net of the change in the control states. The Appendix provides the full set of results from our models.¹²

ROBUSTNESS We tried several alternative model specifications to determine how sensitive our results were to various modeling decisions. Changing the post period to begin in 2006—before all of the Massachusetts reform provisions had been implemented—slightly decreased the size of the treatment effect, but it remained significant, and our substantive conclusions were unchanged. Similarly, omitting the 2006 and 2007 implementation period from the data and setting the post period as 2008 and beyond obtained a similar result.

Using the official Current Population Survey (Annual Social and Economic Supplement) rather than the SHADAC-Enhanced Current Population Survey decreased the difference-in-differences estimate in the participation sample from 19.4 percentage points to 16.9 percentage points—still statistically significant. This attenuation was expected, as the official CPS underestimates differences in coverage between the

states. Finally, we also examined a more narrowly defined Medicaid variable that includes only people who reported Medicaid coverage specifically and not CHIP or another state program. Doing so changed our difference-indifferences estimate to 14.9 percentage points (p < 0.003).

Discussion

The size of the welcome-mat effect we observed in Massachusetts was substantial. Our results show that reform in Massachusetts led to a 19.4-percentage-point increase in the Medicaid participation rate among low-income parents and a 16.3-percentage-point increase in the share of low-income parents covered by Medicaid. The size of the effect that we found was consistent with previous research on factors associated with

EXHIBIT 3

Increase In Medicaid Participation And Enrollment In Massachusetts Compared To Control States

	Participation sample		Enrollment sample		
Massachusetts Control states Difference in differences Implied percent increase	Post-pre adjusted difference 21.7**** 2.3 19.4****	Standard error (5.00) (3.99) (4.88)	Post-pre adjusted difference 16.06*** -0.23 16.30****	Standard error (5.22) (3.36) (4.80)	
from MA base rate (2005)	29.8	_	36.19	_	

SOURCE State Health Access Data Assistance Center (SHADAC)–Enhanced CPS, 2004–2012. **NOTES** Participation and enrollment rates are defined in the text. Standard errors are Taylor series linearized standard errors. Model adjusted for covariates in Exhibit 1. Adjusted difference obtained using average marginal effects. ****p < 0.01 *****p < 0.001

Medicaid participation that reported an increase of more than ten percentage points in the Medicaid participation rate among eligible adults without private insurance coverage in Massachusetts.⁴

The magnitude of the effect that we found was also consistent with evaluations of other changes in Massachusetts's Medicaid program. For example, using a difference-in-differences design, Lisa Dubay and Genevieve Kenney found that the expansion of parental Medicaid coverage in the late 1990s increased the participation of children by fourteen percentage points. 17 Our study adds to this prior research by focusing specifically on the previously eligible population and using control states to estimate the size of the welcome-mat effect associated with major reforms similar to those envisioned by the Affordable Care Act.

Our analysis has potentially important implications for other states, especially for predicting how this welcome-mat effect will affect state budgets. However, we believe that the experiences of other states are likely to differ from the effects we observed in Massachusetts. At the state level, the size of the welcome-mat effect will likely be influenced by several different factors. A state's baseline Medicaid participation rate is likely to play a role, since states with low initial participation have more "room to improve" and thus a potentially larger welcome-mat effect. Compared to other states, Massachusetts had a high Medicaid participation rate before implementing its 2006 reforms.¹⁸ This fact suggests that in many states the potential size of the welcome-mat effect is even larger than what we observed in Massachusetts.

Another factor that will likely cause variation in the size of the welcome-mat effect across states is the intensity of outreach efforts. Massachusetts conducted extensive outreach to ensure awareness of insurance coverage options and the individual coverage mandate. This campaign probably affected the increase in Medicaid enrollment among populations that were previously eligible but not enrolled. In contrast, many states have chosen not to implement the Medicaid expansion, not to participate in administration of the insurance exchange, or both. These states are not likely to engage in additional enrollment outreach efforts, and it is not yet clear how extensive federal outreach efforts will be in states where the federal government will be administering the insurance exchange. The lack of state outreach efforts is likely to reduce the size of the welcome-mat effect compared to what we observed in Massachusetts.

However, several factors will probably offset the lack of outreach efforts in many states. Even in states that do not implement the Medicaid expansion, health care providers and community groups will step up their efforts to enroll people who are Medicaid eligible, particularly in light of the cuts in disproportionate-share hospital program payments that are included in the Affordable Care Act. (This program provides funding to hospitals to help offset the cost of providing care to low-income uninsured patients, and its funding is scheduled to be reduced because the Affordable Care Act is expected to reduce the size of the uninsured population.) In addition, the individual mandate and the requirement to include information about health insurance status on tax returns will also contribute somewhat to the welcome-mat effect.

Finally, requirements for streamlined Medicaid application processes, including new modes of application and less burdensome information requirements for applicants, are likely to increase Medicaid participation among populations that are currently eligible but not enrolled. These streamlined requirements also extend to renewal of eligibility, which may mean that fewer people who continue to be eligible "fall off" the Medicaid rolls at renewal and may thus contribute to a higher Medicaid participation rate.

Conclusion

Major shifts in the health care landscape are about to occur in all states, even those that have chosen not to expand Medicaid or implement a state-based health insurance exchange. On balance, we believe that these changes are also likely to result in substantial increases in Medicaid participation among people who are currently eligible for Medicaid but not enrolled. Increased participation among people who were previously eligible will indeed put pressure on states' budgets and Medicaid infrastructures. However, some of these costs would have been incurred by states eventually if the currently eligible but not enrolled deferred medical services until they had a potentially preventable and costly health event that caused them to seek coverage in Medicaid.

Our analysis provides new evidence that can be incorporated into models that project the impacts of policy changes on Medicaid enrollment. Existing microsimulation models incorporate assumptions about how policy changes will affect the behavior of people who are eligible for Medicaid but not enrolled, but the evidence basis for these assumptions has been quite thin. Our analysis provides new evidence that can be used to refine these models in the future.

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