

Four Years Later: Insurance Coverage and Access to Care Continue to Diverge Between ACA Medicaid Expansion and Non-Expansion States

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A growing literature documents that low-income adults in states adopting Medicaid eligibility expansions under the Affordable Care Act (ACA) have experienced improvements in coverage and access to care, increased health care utilization, and improved financial outcomes, compared to low-income adults in states that did not expand their Medicaid programs.¹ Most of these studies rely on a relatively short period following the expansion of eligibility of only one or two years. As new data become available, it is important to update these analyses to examine the longer-term effects of Medicaid expansion. There may be lagged effects of this policy change, particularly if it takes eligible individuals some time to learn about the new policy, enroll, and begin using care.

In this paper, we provide the first evidence on the impact of the ACA Medicaid expansions four years after implementation. We use high-quality survey data from the National Health Interview Survey (NHIS), which is often touted as the “gold standard” of federal survey data (National Center for Health Statistics, 2015). We evaluate changes in insurance coverage, access to and use of medical care, and health among low-income adults in expansion and non-expansion states from 2010 to 2017. We use an event study framework to trace out the effects

of the ACA Medicaid expansions on outcomes during each year following implementation.

We find that the improvements in health insurance coverage and access observed in the expansion states grew over time, with larger effects observed during years three and four after the initiation of the policy. In year four, the ACA Medicaid expansions were associated with a 12 percentage point increase in health insurance coverage and a 17 percentage point increase in Medicaid enrollment among low-income adults in expansion states compared to non-expansion states. Respondents in expansion states also experienced substantial reductions in difficulties paying medical bills and improvements in access to care across several measures. Despite reported improvements in coverage and access to care, we do not observe strong patterns in changes in utilization over time, nor evidence of improvements in self-reported health during this four year post-period.

Our results show that the decision to expand Medicaid eligibility through the ACA had lasting effects on coverage and access for low-income adults. In addition, the impacts of the Medicaid expansions have grown over time, despite uncertainty regarding the law’s future being featured prominently in policy debates. Given the recent literature documenting many positive long-term impacts of Medicaid coverage,² the benefits of expanding eligibility may prove to be even larger in the future.

I. Data and Empirical Strategy

The Affordable Care Act expanded Medicaid eligibility to all adults in households earning

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¹See e.g. Miller and Wherry (2017); Simon, Soni and Cawley (2017); Wherry and Miller (2016); Cawley, Soni and Simon (2018); Sommers et al. (2015); Courtemanche et al. (2016); Ghosh, Simon and Sommers (2017); Hu et al. (2018); Brevoort et al. (2018); Gallagher et al. (2018); Courtemanche et al. (2018); Sommers et al. (2017); Caswell and Waidmann (2017); Buchmueller et al. (2016); Abramowitz (2018); Allen et al. (2017).

²E.g., see Levine and Schanzenbach (2009); Wherry and Meyer (2016); Boudreaux, Golberstein and McAlpine (2016); Brown, Kowalski and Lurie (2015); Currie, Decker and Lin (2008); Wherry et al. (2018); Miller and Wherry (2018); Goodman-Bacon (2017); Thompson (2017); O’Brien and Robertson (2018); East et al. (2017).

up to 138 percent of the Federal Poverty Level (FPL). While this eligibility expansion was originally intended to apply to all states, a 2012 Supreme Court decision made the expansion optional. As a result, only 26 states and Washington, D.C. expanded eligibility by the end of 2014, with 5 additional states expanding eligibility between 2015 and 2017. As of 2019, 5 additional states have elected to expand while 14 states continue to forego the expansions (The Henry J. Kaiser Family Foundation, 2019). In this analysis, we take advantage of the timing of these expansions, as well as the fact that many states have not yet expanded, to analyze the impact of this policy using an event-study model.

To conduct this analysis, we use the 2010 to 2017 years of the NHIS. The NHIS is a nationally representative survey conducted annually by the National Center for Health Statistics (NCHS). The survey asks a set of questions to all household members, recorded in the “person file,” and also conducts a more in-depth interview with one randomly-selected adult in the household, recorded in the “sample adult” file. In our study, we use responses from both files; as a result, sample sizes vary across outcome variables depending on the source.

States are classified as expansion states if they adopted the ACA Medicaid expansion at any point during our sample period. We use state identifiers available on the restricted-use version of the dataset to make these assignments. The post expansion period is defined for each state using the year and quarter of implementation (The Henry J. Kaiser Family Foundation, 2019). Following previous work (e.g., Miller and Wherry (2017)), we exclude from the analysis states that adopted comparable expansions of Medicaid eligibility prior to the ACA.³ We also exclude DC, which took up the ACA Medicaid expansion early, in 2010.

Because the Medicaid expansion affected individuals in households earning under 138 percent of the FPL, we restrict our analysis sample to individuals in families with incomes below this threshold.⁴ We exclude noncitizens from

the analysis since not all adults in this group are eligible for Medicaid (Centers for Medicare & Medicaid Services, 2014). We further drop those age 18 and under and those age 65 and older who would have been covered by existing programs prior to the ACA.

We measure the impact of the Medicaid expansions on outcome variables related to insurance coverage, utilization, access to care, financial strain, and health. The three insurance coverage variables indicate whether individuals had no insurance, Medicaid, or private health insurance coverage at the time of interview. Measures of health care utilization refer to use in the previous 12 months and describe interactions with a general doctor, medical specialist, or mid-level provider, as well as use of the emergency department (ED) or any overnight hospital stays. We also examine reported use of preventive services during the past 12 months, including blood cholesterol and blood pressure tests, mammograms, and colon cancer testing.⁵

We examine five different measures of access to care, which include whether the respondent reports having a usual source of care and indicators of whether the respondent was unable to afford necessary medical care, follow-up care, or specialty care, or delayed care due to its cost during the previous 12 months. We also evaluate three measures of financial stress related to medical costs: whether a respondent had worried about his or her ability to pay medical bills in the event of an illness or accident, currently had and was unable to pay medical bills, or had problems paying medical bills in the previous 12 months. We also examine whether the respondent reports delaying care during the previous 12 months due to wait times for appointments or in the doctor’s office.

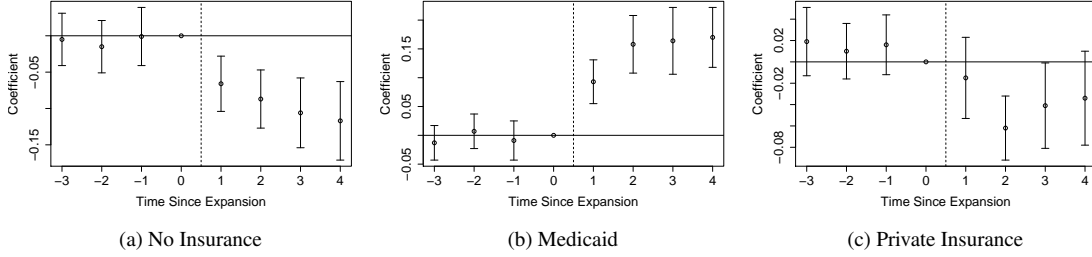
Finally, we examine diagnoses of chronic conditions and health status. We evaluate respondent reports of ever receiving diagnoses of diabetes or hypertension, whether the respondent reports his or her health to be excellent or very good, and whether the respondent mentioned depression as a health problem. Additional information on the outcome measures may be found in Miller and Wherry (2017).

³These states are DE, MA, NY, VT. See the Appendix of Miller and Wherry (2017) for a more detailed discussion.

⁴The NHIS provides multiple imputations of the ratio of family income to the poverty line for those with missing values; all analyses incorporate this information using Stata procedures for multiple-imputation analyses with complex survey data.

⁵Information on use of these preventive services was only available starting in 2011, as was information on the financial stress measures and two of the access measures described below.

Figure 1. : Effect of the ACA Medicaid Expansions on Insurance Coverage By Year



Note: Each panel shows estimates of event study coefficients from equation (1). The year prior to the expansion is the omitted category. The dependent variable is reported below the figure. Bars represent 95 percent confidence intervals.

Our empirical strategy looks at changes in these outcome variables in the expansion states relative to the time that the expansion was implemented, as compared to outcomes in the non-expansion states. We estimate this using an event-study model that allows us to assess the evolution of relative outcomes both before and after the implementation of the expansions. Specifically, we estimate:

$$(1) Y_{isqt} = Expansion_s \times \sum_{\substack{y=-3 \\ y \neq 0}}^4 \beta_y I(t - t_s^* = y) + \beta_{qt} + \beta_s + \gamma X_{ist} + \epsilon_{isqt}.$$

In this equation, β_{qt} denotes quarter-year fixed effects and β_s denotes state fixed effects. The variable $Expansion_s$ equals 1 if individual i is living in a state that opted to expand Medicaid eligibility between 2014 and 2017, and zero otherwise. Indicator variables $I(t - t_s^* = y)$ measure the time relative to the implementation year, t_s^* , of the expansion in that state, and are zero in all periods for non-expansion states.⁶ The omitted category is $y = 0$, the year prior to the expansion. Therefore, each estimate of β_y provides the change in outcomes in expansions states relative to non-expansion states during year y , as measured from the year immediately prior to expansion. The vector X_{ist} includes individual-level controls for age, race and ethnicity, marital status, number of children and adults in the

family, and educational attainment. We estimate equation (1) with a linear probability model and report heteroskedasticity-robust standard errors that are clustered at the state level. All analyses use NHIS survey weights.

Our model relies on the assumption that, if expansion states had not adopted the ACA Medicaid expansions, their outcomes would evolve similarly as the outcomes in the non-expansion states. While we are unable to test this assumption directly, the event-study framework allows us to observe if the outcomes in the expansion states evolved similarly as those in the non-expansion states for years *prior* to the expansions, where $y < 0$. If outcomes trended similarly before the expansions, and diverged only after their implementation, this increases our confidence in the causal interpretation of our estimates.

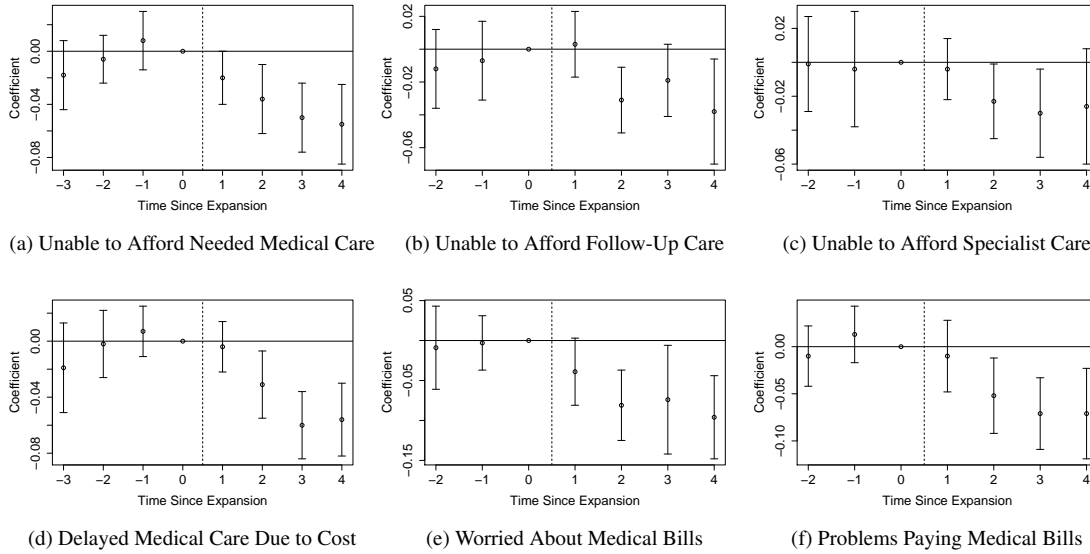
II. Results

We present our results graphically for health insurance and a subset of measures related to access to care and financial strain in Figures 1 and 2. The y-axis displays the size of the event study coefficients from equation (1), while the x-axis denotes the year relative to expansion. The 95 percent confidence intervals are included. Tables with the coefficient estimates and standard errors for all outcomes may be found in the Appendix.

As shown in Figure 1, we estimate significant decreases in lack of insurance, and increases in Medicaid coverage in the expansion states relative to the non-expansion states following Medicaid expansion. The magnitude of the estimated coefficients grows over time.

⁶We group together $y \leq -4$ (and $y \leq -3$ for outcomes available starting only in 2011) into a single indicator variable interacted with expansion status that is included in the regression model but not shown in the figures since we only observe this period for the five late implementer states.

Figure 2. : Effect of the ACA Medicaid Expansions on Access and Financial Strain By Year



Note: Each panel shows estimates of event study coefficients from equation (1). The year prior to the expansion is the omitted category. The dependent variable is reported below the figure. Bars represent 95 percent confidence intervals.

During the fourth year after the expansions are implemented, we observe that low-income respondents in expansion states are 12 percentage points less likely to be uninsured and 17 percentage points more likely to have Medicaid coverage. We also find some evidence of a significant reduction in private insurance coverage in expansion states compared to non-expansion states during the second and third years after expansion.⁷

Figure 2 shows that the effects of Medicaid expansion on several measures of access to care also grew over time. By year 4 following expansion, low-income respondents in expansion states are significantly less likely to report that they were unable to afford needed medical care (-5.5 percentage point reduction) or follow-up care (-3.8 pp), or that they delayed needed medical care because of the cost (-5.6 pp). We also find reductions in reports that a respondent worried about his or her ability to pay medical bills in the event of an illness or accident (-9.6 pp) or had problems paying medical bills (-7.1 pp).

Reported in the Appendix, we find some evidence of increased utilization, including the

use of preventive services, among low-income adults in expansion states compared to non-expansion states during the post-period. However, the results do not indicate a clear pattern over time (increasing or decreasing). We also find no evidence of improvements in self-reported health during the post-period.

For nearly all of the outcomes examined, we see little or no evidence of a pre-ACA differential trend that would be concerning. This is demonstrated by the event study coefficients for $y = -3$ to $y = -1$; these coefficients are close to zero and not statistically significant. This lack of differential pre-trend lends support to our empirical approach.

III. Discussion

Our analysis shows that low-income adults in ACA Medicaid expansion states experienced significant increases in coverage, improvements in access to care, and decreased financial stress related to medical bills relative to their counterparts in non-expansion states. The effects of the expansions appear to be growing over time, with the largest impacts observed three and four years after implementation. These results closely align with previous analyses of the NHIS and analyses using other data sources.

⁷Some of this "crowd-out" may reflect that adults with incomes between 100-138 percent of the FPL receive subsidies for exchange-based coverage in the non-expansion states only.

Our findings indicate that the Medicaid expansions generated some benefits to the low-income, uninsured residents who gained eligibility. It remains unclear, however, whether expanded insurance coverage improved health; other research shows mixed evidence when evaluating self-reported health measures (see Courtemanche et al., 2018; Cawley, Soni and Simon, 2018; Sommers et al., 2017), and inconclusive evidence using aggregated mortality data (Black et al., 2018). It will be important, going forward, to further document the long-term consequences of the ACA Medicaid expansions for both health and public spending.

It is also unclear what changes on the provider side—if any—facilitated the increase in access associated with eligibility expansions. Research suggests that physicians did not make room for the newly insured by reducing care to existing patients (Carey, Miller and Wherry, 2018). Understanding how exactly providers facilitated these improvements in access for beneficiaries, as well as whether there are any spillover effects for non-recipients, will further our understanding of the overall effects of this policy.

REFERENCES

- Abramowitz, Joelle.** 2018. “The Effect of ACA State Medicaid Expansions on Medical Out-of-Pocket Expenditures.” *Medical Care Research and Review*.
- Allen, Heidi, Ashley Swanson, Jialan Wang, and Tal Gross.** 2017. “Early Medicaid Expansion Associated With Reduced Payday Borrowing In California.” *Health Affairs*, 36(10).
- Black, Bernard, Alex Hollingsworth, Leticia Nunes, and Kosali Simon.** 2018. “The Effect of Health Insurance on Mortality: What Can We Learn from the Affordable Care Act Coverage Expansions?” *Working Paper*.
- Boudreaux, Michel, Ezra Golberstein, and Donna McAlpine.** 2016. “The Long-Term Impacts of Medicaid Exposure in Early Childhood: Evidence from the Programs Origin.” *Journal of Health Economics*, 45: 161–75.
- Brevoort, Kenneth, Daniel Grodzicki, Martin B. Hackmann, and Sergei Koulayev.** 2018. “The Credit Consequences of Unpaid Medical Bills.” *Working Paper*.
- Brown, David W., Amanda E. Kowalski, and Ithai Z. Lurie.** 2015. “Medicaid as an Investment in Children: What is the Long-Term Impact on Tax Receipts?” *NBER Working Paper No. 20835*.
- Buchmueller, Thomas, Zachary M. Levinson, Helen G. Levy, and Barbara Wolfe.** 2016. “Effect of the Affordable Care Act on Racial and Ethnic Disparities in Health Insurance Coverage.” *American Journal of Public Health*, 106(8): 1416–1421.
- Carey, Colleen M., Sarah Miller, and Laura R. Wherry.** 2018. “The Impact of Insurance Expansions on the Already Insured: The Affordable Care Act and Medicare.” *NBER Working Paper No. 25153*.
- Caswell, Kyle J., and Timothy A. Waidmann.** 2017. “The Affordable Care Act Medicaid Expansions and Personal Finance.” *Medical Care Research and Review*, 1–34.
- Cawley, John, Aparna Soni, and Kosali Simon.** 2018. “Third Year of Survey Data Shows Continuing Benefits of Medicaid Expansions for Low-Income Childless Adults in the U.S.” *Journal of General Internal Medicine*, 33(9): 1495–1497.
- Centers for Medicare & Medicaid Services.** 2014. “Eligibility for Non-Citizens in Medicaid and CHIP.” *Website*.
- Courtemanche, Charles, James Marton, Benjamin Ukert, Aaron Yelowitz, and Daniela Zapata.** 2016. “Early Impacts of the Affordable Care Act on Health Insurance Coverage in Medicaid Expansion and NonExpansion States.” *Journal of Policy Analysis and Management*, 36(1): 178–210.
- Courtemanche, Charles, James Marton, Benjamin Ukert, Aaron Yelowitz, and Daniela Zapata.** 2018. “Effects of the Affordable Care Act on Health Care Access and Self-Assessed Health After 3 Years.” *Inquiry*, 55(Jan-Dec).
- Currie, Janet, Sandra Decker, and Wanchuan Lin.** 2008. “Has Public Health

- Insurance for Older Children Reduced Disparities in Access to Care and Health Outcomes?" *Journal of Health Economics*, 27: 1567–1581.
- East, Chloe, Sarah Miller, Marianne Page, and Laura R. Wherry.** 2017. "Multi-generational Impacts of Childhood Access to the Safety Net: Early Life Exposure to Medicaid and the Next Generation's Health." *NBER Working Paper No. 23810*.
- Gallagher, Emily, Radhakrishnan Gopalan, Michal Grinstein-Weiss, and Jorge Sabat.** 2018. "Medicaid and Household Savings Behavior: New Evidence from Tax Refunds." *SSRN Working Paper*.
- Ghosh, Ausmita, Kosali Simon, and Benjamin Sommers.** 2017. "The Effect of State Medicaid Expansions on Prescription Drug Use: Evidence from the Affordable Care Act." *NBER Working Paper No. 23044*.
- Goodman-Bacon, Andrew.** 2017. "The Long-Run Effects of Childhood Insurance Coverage: Medicaid Implementation, Adult Health and Labor Market Outcomes." *NBER Working Paper No. 22899*.
- Hu, LuoJia, Robert Kaestner, Bhashkar Mazumder, Sarah Miller, and Ashley Wong.** 2018. "The Effect of the Affordable Care Act Medicaid Expansions on Financial Well-Being." *Journal of Public Economics*.
- Levine, Phillip, and Diane Schanzenbach.** 2009. "The Impact of Childrens Public Health Insurance Expansions on Educational Outcomes." *Forum for Health Economics & Policy*, 12(1): 1–26.
- Miller, Sarah, and Laura Wherry.** 2017. "Health and Access to Care during the First 2 Years of the ACA Medicaid Expansions." *New England Journal of Medicine*, 376: 947–956.
- Miller, Sarah, and Laura Wherry.** 2018. "The Long-Term Effects of Early Life Medicaid Coverage." *Journal of Human Resources*.
- National Center for Health Statistics.** 2015. "Survey Description. 2014 National Health Interview Survey (NHIS)." *Public Use Data Release*.
- O'Brien, Rourke L., and Cassandra L. Robertson.** 2018. "Early-life Medicaid Coverage and Intergenerational Economic Mobility." *Journal of Health and Social Behavior*, 59(2): 300–315.
- Simon, Kosali, Aparna Soni, and John Cawley.** 2017. "The impact of health insurance on preventive care and health behaviors: evidence from the first two years of the ACA Medicaid expansions." *Journal of Policy Analysis and Management*.
- Sommers, Benjamin D., Bethany Maylone, Robert J. Blendon, E. John Orav, and Arnold M. Epstein.** 2017. "Three-Year Impacts Of The Affordable Care Act: Improved Medical Care And Health Among Low-Income Adults." *Health Affairs*, 36(6): 1119–1128.
- Sommers, Benjamin, Munira Gunja, Kenneth Finegold, and Thomas Musco.** 2015. "Changes in Self-reported Insurance Coverage, Access to Care, and Health Under the Affordable Care Act." *JAMA*, 341(4): 366–374.
- The Henry J. Kaiser Family Foundation.** 2019. "Status of State Action on the Medicaid Expansion Decision." *Website*.
- Thompson, Owen.** 2017. "The Long-Term Health Impacts of Medicaid and CHIP." *Journal of Health Economics*, 51: 26–40.
- Wherry, Laura, and Bruce Meyer.** 2016. "Saving Teens: Using a Policy Discontinuity to Estimate the Effects of Medicaid Eligibility." *Journal of Human Resources*, 51(3): 556–588.
- Wherry, Laura, and Sarah Miller.** 2016. "Early Coverage, Access, Utilization, and Health Effects of the Affordable Care Act Medicaid Expansions: A Quasi-Experimental Study." *Annals of Internal Medicine*, 164(12): 795–803.
- Wherry, Laura, Sarah Miller, Robert Kaestner, and Bruce Meyer.** 2018. "Childhood Medicaid Coverage and Later Life Health Care Utilization." *Review of Economics and Statistics*, 100(2): 287–302.

Table 1—: Changes in Insurance Coverage, Utilization, and Preventive Services Among Low-Income Adults in States with Medicaid Expansions

	Health insurance				Health care use in past 12 months				Preventive services in past 12 months			
	No insurance coverage	Medicaid coverage	Private health insurance coverage	Saw or talked to general doctor	Overnight hospital stay	ED visit	Saw or talked to NP, PA, or midwife	Saw or talked to medical specialist	Blood cholesterol level check	Blood pressure check	Mammogram, women age 50+	Colon cancer test, adults 50+
Expansion $\times Y = 4$	-0.117*** (0.027)	0.170*** (0.026)	-0.034 (0.022)	0.014 (0.030)	-0.009 (0.012)	-0.022 (0.025)	0.015 (0.021)	0.029 (0.027)	0.034 (0.030)	0.006 (0.027)	0.071 (0.060)	0.097** (0.038)
Expansion $\times Y = 3$	-0.106*** (0.024)	0.164*** (0.029)	-0.041** (0.020)	0.052* (0.030)	0.005 (0.010)	-0.025 (0.022)	0.047** (0.021)	0.033* (0.018)	0.063*** (0.023)	0.02 (0.026)	-0.006 (0.057)	0.064 (0.042)
Expansion $\times Y = 2$	-0.087*** (0.020)	0.158*** (0.025)	-0.062*** (0.015)	0.016 (0.030)	0.001 (0.009)	-0.003 (0.022)	0.027 (0.020)	0.042** (0.017)	0.053* (0.027)	0.008 (0.026)	-0.048 (0.042)	0.041 (0.033)
Expansion $\times Y = 1$	-0.066*** (0.019)	0.093*** (0.019)	-0.015 (0.019)	0.021 (0.027)	0.002 (0.006)	0.009 (0.023)	0.012 (0.016)	0.032* (0.017)	0.025 (0.032)	0.015 (0.024)	0.032 (0.050)	0.053*** (0.025)
Expansion $\times Y = -1$	-0.001 (0.020)	-0.009 (0.017)	0.016 (0.014)	0.029 (0.023)	0.006 (0.006)	-0.009 (0.020)	-0.003 (0.018)	0.016 (0.014)	0.006 (0.022)	-0.003 (0.024)	-0.005 (0.047)	0.022 (0.018)
Expansion $\times Y = -2$	-0.015 (0.018)	0.007 (0.015)	0.010 (0.013)	0.000 (0.022)	0.007 (0.009)	-0.02 (0.020)	-0.014 (0.017)	0.032* (0.017)	0.027 (0.024)	-0.001 (0.022)	0.012 (0.057)	0.062** (0.027)
Expansion $\times Y = -3$	-0.005 (0.018)	-0.013 (0.015)	0.019 (0.016)	-0.013 (0.029)	0.004 (0.011)	-0.022 (0.019)	-0.012 (0.025)	0.000 (0.021)	0.054 (0.035)	0.010 (0.034)	-0.031 (0.071)	0.085** (0.038)
Expansion $\times Y = -4$	0.004 (0.035)	0.018 (0.020)	-0.014 (0.016)	0.021 (0.043)	0.010 (0.018)	0.001 (0.038)	0.023 (0.028)	0.031 (0.028)				
Mean	0.3037	0.3251	0.2821	0.5968	0.1107	0.3182	0.2074	0.2061	0.4946	0.7681	0.4486	0.2009
Pre-mean, expansion states	0.336	0.3054	0.2617	0.5872	0.1116	0.3222	0.191	0.2025	0.4511	0.7537	0.453	0.1728
N	73,795	73,795	73,795	37,610	74,778	37,581	37,590	37,627	27,558	27,972	5,698	10,097

Note: Event study coefficients associated with Equation (1). Robust standard errors clustered at the state level reported in parentheses. See text for details. Significance levels: * = 0.1, ** = 0.05, *** = 0.001.

Table 2—: Changes in Access to Care and Financial Strain Among Low-Income Adults in States with Medicaid Expansions

	Access to health services				Financial strain				Wait time	
	Needed follow-up care, but could not afford, past 12m	Needed to see specialist, but could not afford, past 12m	Needed medical care, but could not afford, past 12m	Delayed medical care because of cost, past 12m	Had a usual place to receive health care	Worried about ability to pay medical bills	Currently have medical bills unable to pay	Problems paying medical bills, past 12m	Delayed care due to apt wait, past 12m	Delayed care due to office wait, past 12m
Expansion×Y = 4	-0.038** (0.016)	-0.026 (0.017)	-0.055*** (0.015)	-0.056*** (0.013)	0.022 (0.025)	-0.096*** (0.026)	-0.031 (0.020)	-0.071*** (0.024)	0.022 (0.019)	0.018* (0.010)
Expansion×Y = 3	-0.019* (0.011)	-0.030** (0.013)	-0.050*** (0.013)	-0.060*** (0.012)	0.044* (0.023)	-0.074** (0.034)	-0.061*** (0.021)	-0.071*** (0.019)	0.008 (0.011)	0.011 (0.011)
Expansion×Y = 2	-0.031*** (0.010)	-0.023** (0.011)	-0.036*** (0.013)	-0.031** (0.012)	0.004 (0.029)	-0.081*** (0.022)	-0.034* (0.018)	-0.052*** (0.020)	0.014 (0.010)	0.029*** (0.009)
Expansion×Y = 1	0.003 (0.010)	-0.004 (0.009)	-0.020** (0.010)	-0.004 (0.007)	-0.014 (0.019)	-0.039** (0.021)	-0.011 (0.014)	-0.010 (0.019)	0.018 (0.011)	0.022** (0.009)
Expansion×Y = -1	-0.007 (0.012)	-0.004 (0.017)	0.008 (0.011)	0.007 (0.009)	-0.013 (0.017)	-0.003 (0.017)	0.019 (0.013)	0.013 (0.015)	-0.006 (0.012)	0.006 (0.011)
Expansion×Y = -2	-0.012 (0.012)	-0.001 (0.014)	-0.006 (0.009)	-0.002 (0.012)	0.010 (0.019)	-0.009 (0.026)	0.004 (0.013)	-0.011 (0.016)	0.003 (0.012)	0.007 (0.009)
Expansion×Y = -3	-0.010 (0.017)	0.008 (0.016)	-0.018 (0.013)	-0.019 (0.016)	0.008 (0.025)	-0.004 (0.030)	-0.022 (0.022)	-0.051*** (0.017)	-0.012 (0.012)	0.001 (0.013)
Expansion×Y = -4			0.003 (0.017)	-0.009 (0.027)	0.003 (0.039)				0.003 (0.012)	0.015 (0.016)
Mean	0.0975	0.10777	0.1705	0.1904	0.7618	0.5876	0.2114	0.3049	0.0792	0.064
Pre-mean, expansion states	0.1106	0.1184	0.1872	0.2113	0.7541	0.6186	0.2183	0.3217	0.0789	0.063
N	33,688	33,682	74,786	74,810	37,830	33,622	66,176	66,230	37,770	37,767

Note: Event study coefficients associated with Equation (1). Robust standard errors clustered at the state level reported in parentheses. See text for details. Significance levels: *-0.1, **-0.05, ***-0.001.

Table 3—: Changes in Diagnoses and Health Status Among Low-Income Adults in States with Medicaid Expansions

	Diagnoses of health conditions		Health status and mental health	
	Ever received a diabetes diagnosis	Ever received a hypertension diagnosis	Excellent or very good health	Depression mentioned as health problem
Expansion \times Y = 4	-0.003 (0.017)	-0.045** (0.020)	-0.021 (0.023)	0.008 (0.014)
Expansion \times Y = 3	0.007 (0.010)	0.005 (0.019)	-0.014 (0.018)	-0.001 (0.012)
Expansion \times Y = 2	0.015 (0.011)	-0.023 (0.021)	-0.029 (0.021)	0.000 (0.011)
Expansion \times Y = 1	0.014 (0.009)	-0.013 (0.016)	-0.025 (0.019)	0.004 (0.008)
Expansion \times Y = -1	-0.010 (0.009)	-0.023 (0.023)	0.000 (0.017)	0.001 (0.012)
Expansion \times Y = -2	0.007 (0.010)	-0.011 (0.019)	-0.009 (0.016)	0.015* (0.008)
Expansion \times Y = -3	-0.006 (0.009)	-0.055*** (0.019)	0.006 (0.018)	0.007 (0.013)
Expansion \times Y = -4	0.007 (0.017)	-0.030 (0.026)	-0.036 (0.026)	0.004 (0.013)
Mean	0.0959	0.28	0.4578	0.0652
Pre-mean, expansion states	0.0869	0.2613	0.4622	0.0730
N	38,160	38,132	74,805	38,039

Note: Event study coefficients associated with Equation (1). Robust standard errors clustered at the state level reported in parentheses. See text for details. Significance levels: *=0.1, **=0.05, ***=0.001.