

Healthy Michigan Plan Evaluation

Domain II – Reduction in the Number of Uninsured

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**University of Michigan Institute for Healthcare Policy &
Innovation**

Report Authors:

Helen Levy and Thomas Buchmueller

The Impact of the Healthy Michigan Plan on Insurance Coverage in Michigan

Key findings

- Between 2013 and 2017, Medicaid coverage among non-elderly adults in Michigan increased by 5 percentage points, from 14 percent to 19 percent, and uninsurance was cut in half, dropping from 16 percent to 7 percent.
- Gains in coverage were largest among lower-income Michiganders. Among non-elderly adults in families with incomes below 138 percent of the federal poverty level, uninsurance fell by 17 percentage points, dropping from 31 percent to 13 percent.
- Coverage increased in every one of the state's 10 prosperity regions, with the largest overall gains in coverage occurring in the regions that had the lowest levels of coverage at the outset: the Upper Peninsula (Region 1) and the Northeast Region (Region 3).
- Not all of these gains in coverage are directly attributable to the Healthy Michigan Plan; other ACA programs and the improving economy likely contributed as well. In order to isolate the effect of the Healthy Michigan Plan, we compare Michigan to states that did not expand their Medicaid programs.
- Based on this comparison, we conclude that the Healthy Michigan Plan increased Medicaid coverage among all non-elderly adults in Michigan by 5 percentage points (a statistically significant increase) and reduced uninsurance by 1 percentage point in 2017 (a statistically insignificant change).
- Among non-elderly adults with family incomes below 138 percent of the federal poverty level in 2017, the Healthy Michigan Plan increased Medicaid coverage by 12 percentage points and reduced uninsurance by 7 percentage points (both statistically significant changes).
- We also compare Michigan to other states that did expand their Medicaid programs. Based on this comparison, we conclude that the Healthy Michigan Plan achieved coverage gains that were about the same as those observed in other expansion states.

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INTRODUCTION

The University of Michigan Institute for Healthcare Policy & Innovation (IHPI) is conducting an evaluation of the Healthy Michigan Plan (HMP) as required by the Centers for Medicare & Medicaid Services (CMS) through a contract with the Michigan Department of Health and Human Services (MDHHS). This report presents findings for Domain II on Reduction in the Number of Uninsured.

As outlined in the Special Terms and Conditions of Michigan's Section 1115 Demonstration Waiver, the focus of Domain II is to test the hypothesis that, when affordable health insurance is made available and the application for insurance is simplified (through both an exchange and the state's Medicaid eligibility process), the uninsured population will decrease significantly. The analysis considers the following specific hypotheses:

Hypothesis II.1: The uninsured population in Michigan will decrease significantly.

- Hypothesis II.1A: The uninsured population in Michigan will decrease significantly *relative to the existing trend within Michigan.*
- Hypothesis II.1B: The uninsured population in Michigan will decrease *more for subgroups with higher than average baseline rates of uninsurance than for subgroups with lower than average baseline rates.*
- Hypothesis II.1C: The uninsured population in Michigan will decrease significantly *relative to states that did not expand their Medicaid programs.*
- Hypothesis II.1D: The uninsured population in Michigan will decrease to a similar degree *relative to states that did expand their Medicaid programs.*

Hypothesis II.2: Medicaid coverage in Michigan will increase significantly.

- Hypothesis II.2A: The Medicaid population in Michigan will increase significantly *relative to the existing trend in Michigan.*
- Hypothesis II.2B: The Medicaid population in Michigan will increase significantly *more for subgroups with higher than average baseline rates of uninsurance than for subgroups with lower than average baseline rates.*
- Hypothesis II.2C: The Medicaid population in Michigan will increase significantly *relative to states that did not expand their Medicaid programs.*
- Hypothesis II.2D: The Medicaid population in Michigan will increase to a similar degree *relative to states that did expand their Medicaid programs.*

This report also analyzes two other outcomes, employer-sponsored and private non-group coverage, which help explain why increases in Medicaid do not translate one-for-one into reductions in uninsurance.

DATA

The data for our analysis come from the American Community Survey (ACS), a nationally representative survey conducted annually by the Census Bureau.¹ The sample size in the ACS public release is approximately 3 million individuals in each year. Our analysis is limited to adults ages 19 through 64 since this is the group potentially eligible for the Healthy Michigan

Exhibit 1: How is health insurance coverage measured in the Text of the health insurance question from the American Community Survey

Person 1 (continued)

16 Is this person **CURRENTLY** covered by any of the following types of health insurance or health coverage plans? Mark "Yes" or "No" for EACH type of coverage in items a – h.

	Yes	No
a. Insurance through a current or former employer or union (of this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
b. Insurance purchased directly from an insurance company (by this person or another family member)	<input type="checkbox"/>	<input type="checkbox"/>
c. Medicare, for people 65 and older, or people with certain disabilities	<input type="checkbox"/>	<input type="checkbox"/>
d. Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability	<input type="checkbox"/>	<input type="checkbox"/>
e. TRICARE or other military health care	<input type="checkbox"/>	<input type="checkbox"/>
f. VA (including those who have ever used or enrolled for VA health care)	<input type="checkbox"/>	<input type="checkbox"/>
g. Indian Health Service	<input type="checkbox"/>	<input type="checkbox"/>
h. Any other type of health insurance or health coverage plan – Specify	<input type="checkbox"/>	<input type="checkbox"/>

Source: <https://www2.census.gov/programs-surveys/acs/methodology/questionnaires/2016/quest16.pdf>

Plan. Separate Medicaid eligibility rules apply for children ages 18 and younger and for adults ages 65 and older. Dropping observations for individuals younger than 19 or older than 64 yields approximately 1.8 million observations in each year. Of these, approximately 58,000 in each year are in Michigan, while about 1.1 million observations are in other states that have expanded their Medicaid programs and about 690,000 are in states that have not expanded Medicaid. We drop approximately 4 percent of all observations because they are missing data on family income.²

Since 2008, the ACS has included a question about health insurance that asks respondents to indicate sources of current health insurance for every household member (see Exhibit 1 at left). Respondents may mark more than one option. We use these data to create binary indicators of four different insurance outcomes:

Medicaid or related public coverage, private non-group coverage, employer-sponsored coverage (including TRICARE), and uninsured. Note that with the exception of uninsured, these outcomes are not mutually exclusive; someone might have, for example, both private non-group coverage and Medicaid. However, this is relatively unusual. Note also that there are additional sources of coverage – primarily Medicare

¹ Technical documentation for the ACS is available here: <https://www.census.gov/programs-surveys/acs/technical-documentation.html>

² Appendix Table A1 contains unweighted sample sizes for our analytic sample.

for individuals under age 65 who are disabled or have end-stage renal disease – that we do not discuss in this report. Our analysis of Medicare showed very few changes over time.

Additional ACS variables in some of our analyses include family income relative to poverty, race/ethnicity (white non-Hispanic, black non-Hispanic, other non-Hispanic, Asian non-Hispanic, and Hispanic [any race]), education, and employment status (currently working for pay or not working). We also merge unemployment rate data from the Bureau of Labor Statistics to ACS observations at the state-year level.³

ANALYSIS

A. CHANGES OVER TIME IN MICHIGAN FOR ALL ADULTS AGES 19 THROUGH 64

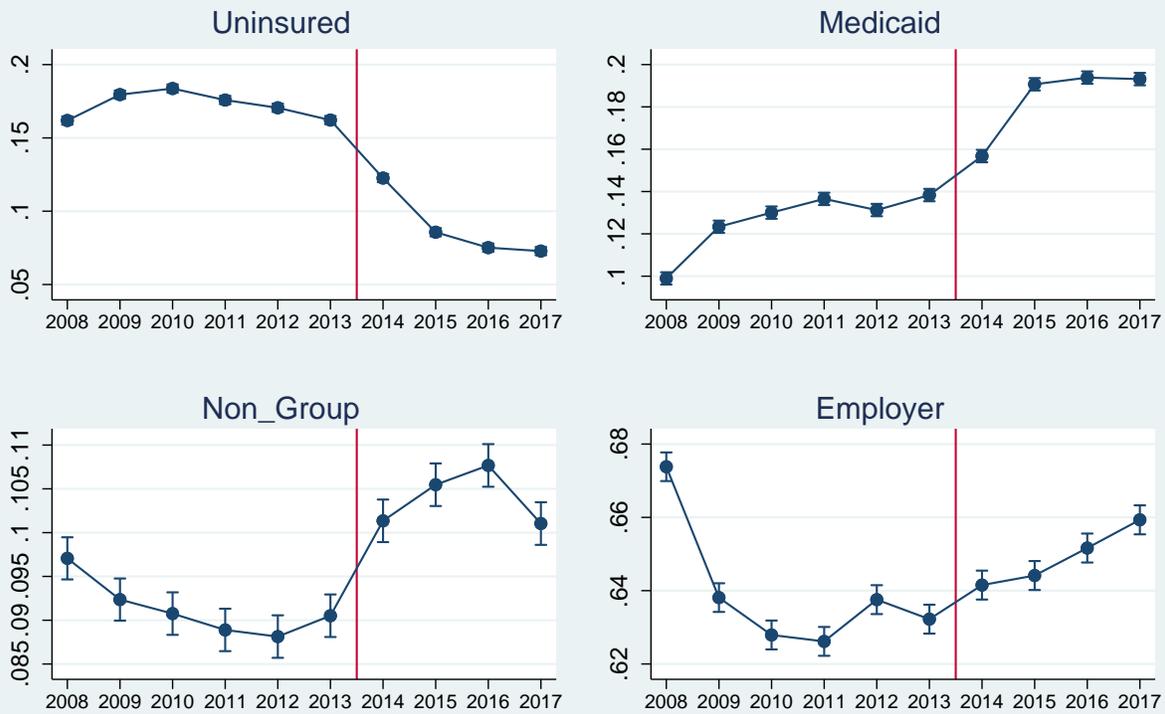
Hypothesis II.1A	The uninsured population in Michigan will decrease significantly <i>relative to the existing trend in Michigan</i> .
Hypothesis II.2A	The Medicaid population in Michigan will increase significantly <i>relative to the existing trend in Michigan</i> .

Figure 1 presents trends over time in the fraction of all Michigan adults ages 19 through 64 with four types of insurance coverage: no coverage, Medicaid, private non-group coverage, and employer coverage.⁴ A vertical red line between 2013 and 2014 represents the start of the Healthy Michigan Plan and the implementation of other ACA coverage reforms, such as health insurance marketplaces, which took effect in 2014. The vertical bars on each data point indicate a 95% confidence interval for the estimate.

³ Specifically, we use series LNS14000000 from the Bureau of Labor Statistics, available here: <https://data.bls.gov/timeseries/Ins14000000>

⁴ Table A2 in the Appendix contains the data that are presented graphically in Figure 1.

Figure 1: Insurance coverage in Michigan, 2008 - 2017
Adults ages 19-64



Source: American Community Survey

Figure 1 shows that uninsurance among non-elderly adults in Michigan was cut in half between 2013 and 2017, declining from 16.2 percent to 7.3 percent over that period. This represented a significant departure from the trend prior to 2014. Uninsurance had been declining very slowly from its 2010 peak of 18.4 percent, but the declines in 2011, 2012, and 2013 were less than one percentage point each, far smaller than the declines of almost four percentage points occurring each year in 2014 and 2015. Smaller declines in uninsurance occurred in 2016 and 2017, suggesting that the effect of the new insurance options had levelled off.

Figure 1 also shows that Medicaid coverage increased significantly among non-elderly adults in Michigan over the same period, from 13.8 percent in 2013 to nearly 19.3 percent in 2017, an increase of 40 percent. This represented a significant departure from the prior trend. After increasing by 2.4 percentage points between 2008 and 2009 – likely as a result of the economic downturn – Medicaid coverage had been relatively stable in 2010 through 2013, fluctuating less than a percentage point from year to year. Medicaid coverage jumped 1.9 percentage points in 2014 and 3.4 percentage points in 2015, then did not change significantly in 2016 or 2017.

Figure 1 also shows that private non-group coverage and employer-sponsored coverage also increased by 1 to 2 percentage points each over this period. These changes, too, represented significant departures from the existing trends. Non-group coverage had hovered around 9 percent between 2008 and 2013 before jumping a full percentage point in 2014. Employer-sponsored coverage had dropped significantly between 2008 and 2009 – again, likely as a result of the economic recession – and remained stable around 64 percent before increasing significantly in 2014, 2015, 2016, and 2017.

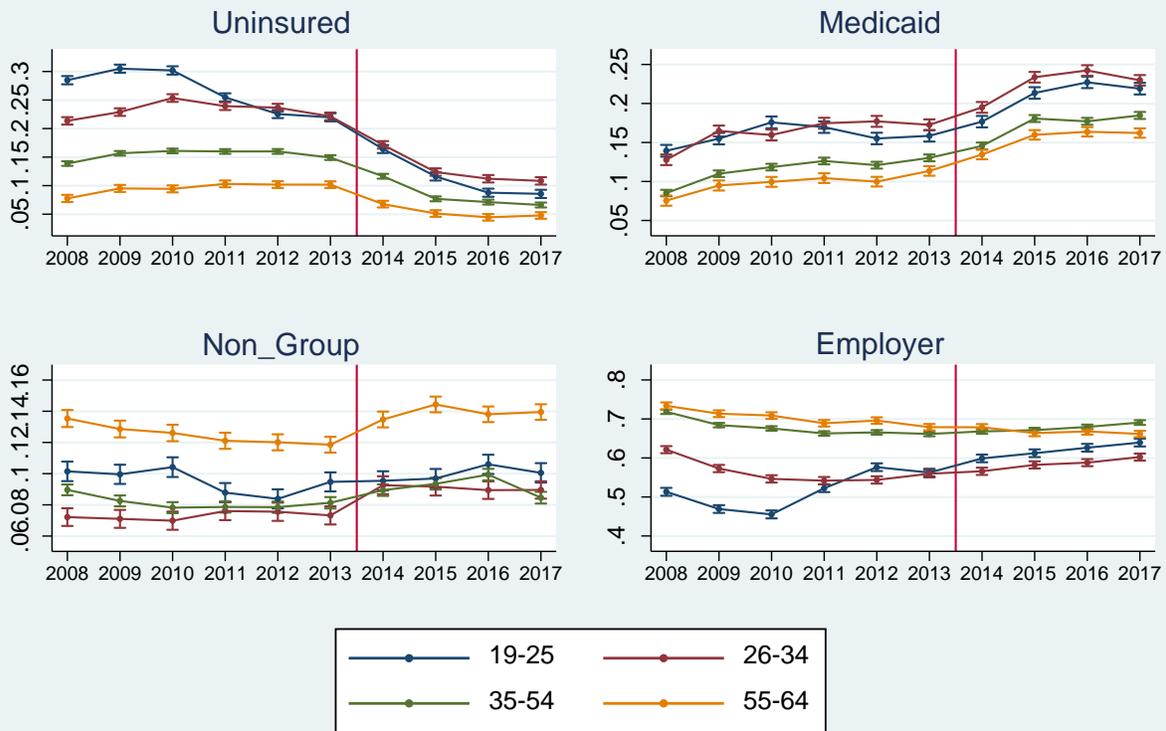
B. CHANGES OVER TIME IN MICHIGAN FOR ADULTS AGES 19 THROUGH 64 IN SUBGROUPS DEFINED BY AGE, INCOME, RACE/ETHNICITY, AND GEOGRAPHIC REGION

Hypothesis II.1B	The uninsured population in Michigan will decrease <i>more for subgroups with higher than average baseline rates of uninsurance than for subgroups with lower than average baseline rates.</i>
Hypothesis II.2B	The Medicaid population in Michigan will increase <i>more for subgroups with higher than average baseline rates of uninsurance than for subgroups with lower than average baseline rates.</i>

Figures 2 through 4 are constructed similarly to Figure 1 but focus on changes in coverage over time for different subgroups of Michigan adults ages 19 through 64. These subgroup results show that reductions in uninsurance and gains in Medicaid were generally the largest for the subgroups with the lowest initial rates of coverage, consistent with Hypotheses II.1B and II.2B.

Figure 2 presents trends for subgroups of Michigan residents defined by age: 19-25, 26-34, 35-54, and 55-64. Prior to 2014, younger adults were more likely to be uninsured than older adults. The youngest adults – those ages 19 to 25 – had very high rates of uninsurance: approximately 30 percent in 2009 and 2010. In 2011, the fraction uninsured for individuals ages 19 through 25 dropped by five percentage points, thanks to a large increase in employer-sponsored coverage. This change was very likely due to the Affordable Care Act provision that allowed young adults to remain on their parents’ employer-sponsored plans through age 25.

Figure 2: Insurance coverage in Michigan by age, 2008 - 2017
Adults ages 19-64



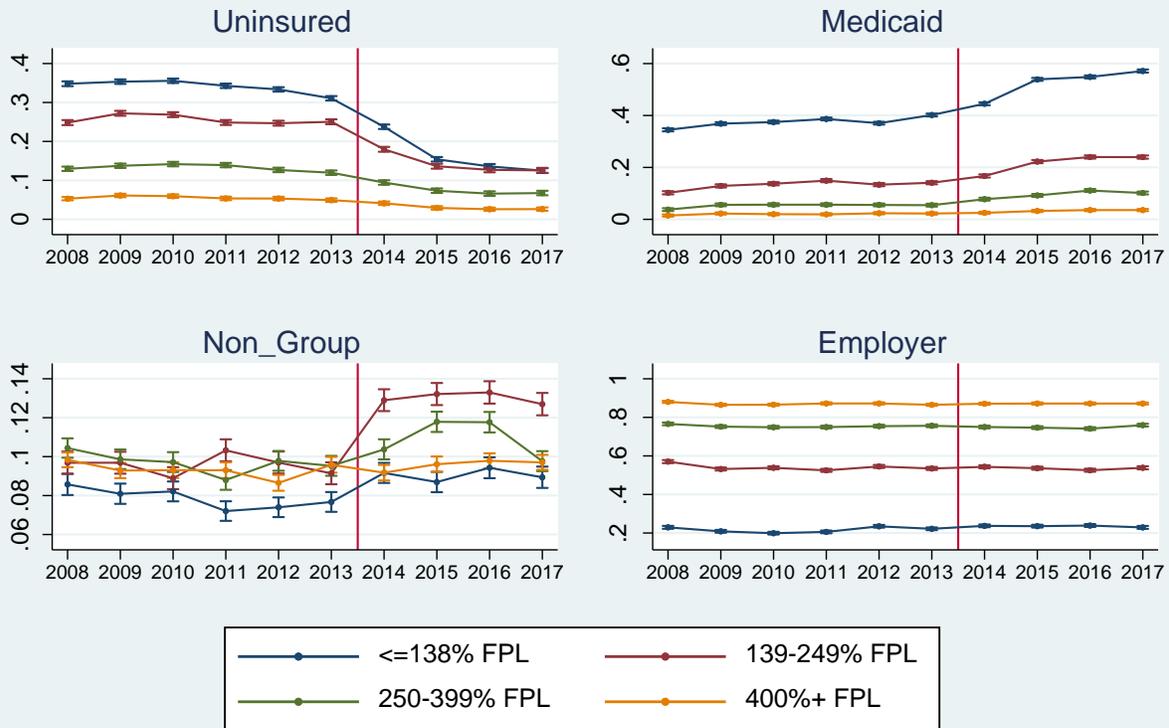
Source: American Community Survey

As a result of this convergence, in 2011, 2012, and 2013, the youngest adults (ages 19 to 25) had rates of coverage similar to those ages 26 to 34, while both groups of older adults had even lower rates of uninsurance. In 2014, both Medicaid and non-group coverage increased for all age groups; increases were very slightly larger, in percentage point terms, for younger adults than for older ones. Younger adults also experienced continued gains in Medicaid in 2016 while older adults did not. Because of all these changes, the age gradient in coverage dropped substantially between 2013 and 2017. In 2013, the uninsured rate for the youngest adults (ages 19 through 25) was 22.6 percent: more than 12 percentage points higher than the rate for the oldest adults in our sample (ages 55 through 64) of 10.2 percent. By 2017, while younger adults still had a higher rate of uninsurance than older adults, the difference had dropped to less than four percentage points (8.6 percent versus 4.8 percent), as shown in Figure 2.

Figure 3 presents results for groups defined by income. Here, too, we see a convergence in the fraction uninsured as the groups with the highest rates of uninsurance at the outset experience the greatest increases in coverage. Among adults below 138 percent of the Federal Poverty Level (reflecting the Healthy Michigan Plan income eligibility threshold of 133 percent plus a 5% income disregard) – about the lowest one-fifth of the income distribution – Medicaid coverage

increased from 40.2 percent to 57.2 percent between 2013 and 2017. Between 2013 and 2014, non-group insurance increased primarily for the two middle-income groups (with incomes between 139 and 399 percent of poverty) who were newly eligible for subsidized private insurance through the federal-state insurance exchange in Michigan.

Figure 3: Insurance coverage in Michigan by family income, 2008 - 2017
Adults ages 19-64

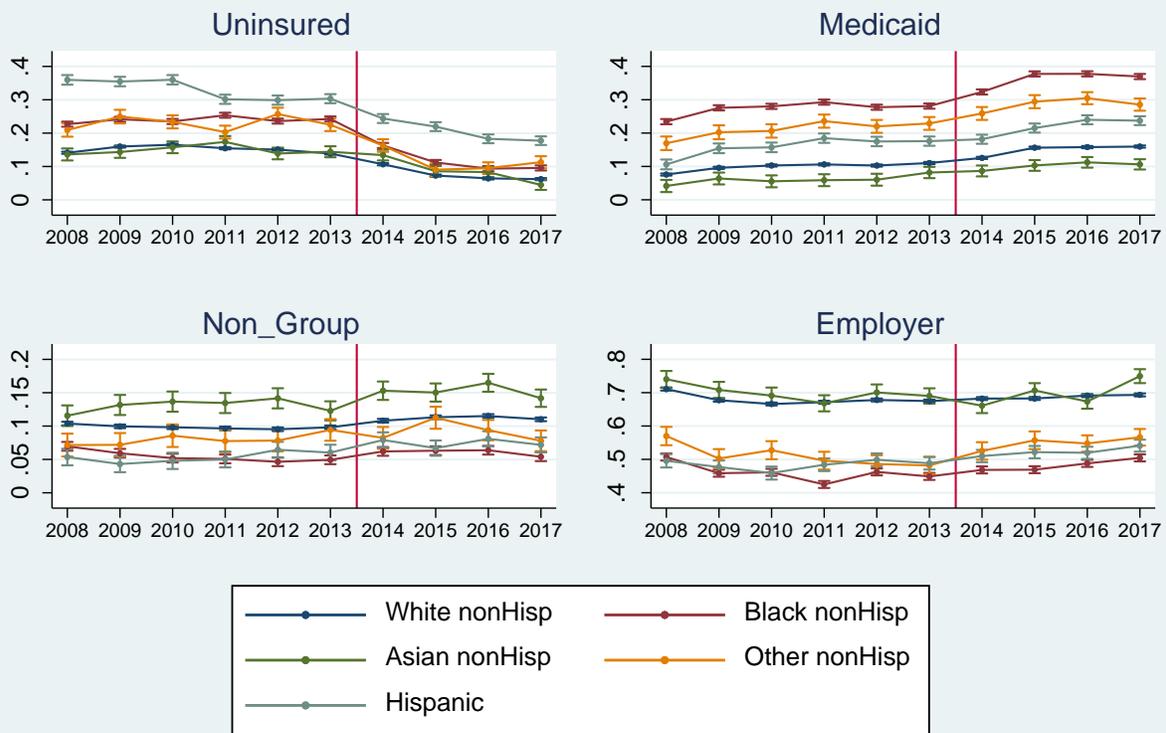


Source: American Community Survey

As a result of both increases in Medicaid and private non-group coverage, Michigan adults at all income levels experienced declines in uninsurance in 2014 and later. The most sizeable drops, however, occurred for those with lower incomes, who had the highest rates of uninsurance to begin with. Uninsurance among the poorest Michigan adults was cut by half or more between 2013 and 2017: from 31.1 percent to 12.3 percent for those with incomes less than or equal to 138 percent of poverty and from 25.0 percent to 12.6 percent for those with incomes between 139 and 249 percent of poverty. The striking and persistent income disparity in coverage that was evident in 2008 through 2013 has been substantially compressed by 2017; indeed, in 2017, rates of uninsurance for the lowest income group (≤138% FPL) were indistinguishable from the rate for those with incomes between 139 and 249 percent of poverty.

Figure 4 shows trends in coverage for subgroups of Michigan adults defined by race/ethnicity: four groups of non-Hispanics – white, black, Asian, and other – and Hispanics, who may be any race. While there are clear differences in coverage between racial/ethnic groups at any point in time – for example, blacks consistently have the highest rates of Medicaid coverage, and Hispanics consistently have the highest rates of uninsurance – all groups experienced significant increases in Medicaid and declines in uninsurance in 2014 and later. As a result, existing racial and ethnic disparities in uninsurance were somewhat smaller in 2017 than in the years before 2014, but were not erased.

Figure 4: Insurance coverage in Michigan by race/ethnicity, 2008 - 2017
Adults ages 19-64



Source: American Community Survey

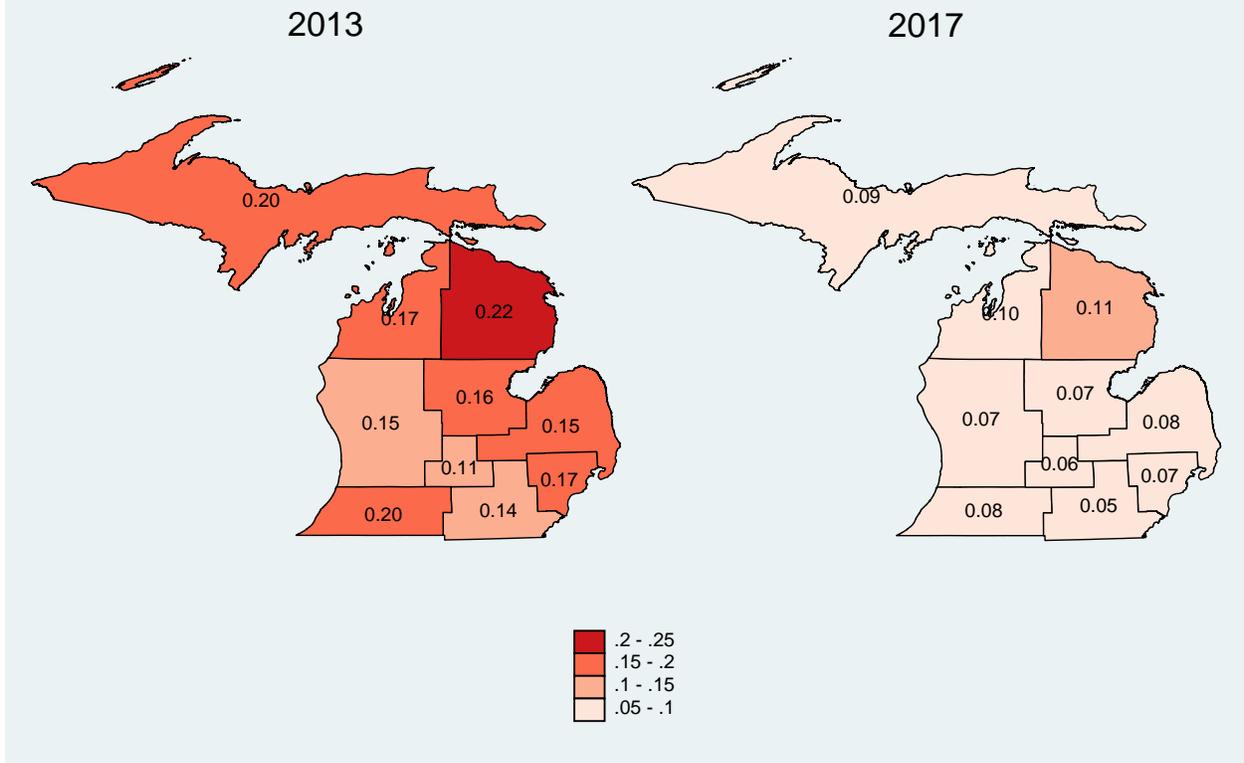
Results by geographic region are presented in Table 1 and Figures 5 and 6. Table 1 ranks the state's prosperity regions by the fraction uninsured in 2013 and reports the fractions uninsured and with Medicaid in 2013 and 2017.⁵

⁵ Additional information on prosperity regions, including a listing of the counties included in each region, can be found here: https://www.michigan.gov/dtmb/0,5552,7-358-82547_56345_66155---,00.html

	Uninsured			Medicaid		
	2013	2017	Change, 2017-2013	2013	2017	Change, 2017-2013
1. Northeast	0.223	0.106	-0.117	0.181	0.270	0.089
2. Upper Peninsula	0.198	0.086	-0.112	0.127	0.218	0.091
3. Southwest	0.197	0.083	-0.115	0.132	0.180	0.048
4. Northwest	0.174	0.099	-0.075	0.125	0.209	0.084
5. Detroit Metro	0.169	0.071	-0.098	0.142	0.202	0.060
6. East Central	0.160	0.075	-0.085	0.157	0.224	0.067
7. East	0.154	0.080	-0.074	0.183	0.251	0.068
8. West	0.149	0.073	-0.076	0.123	0.162	0.038
9. Southeast	0.136	0.052	-0.084	0.098	0.142	0.044
10. South Central	0.115	0.059	-0.056	0.148	0.162	0.014

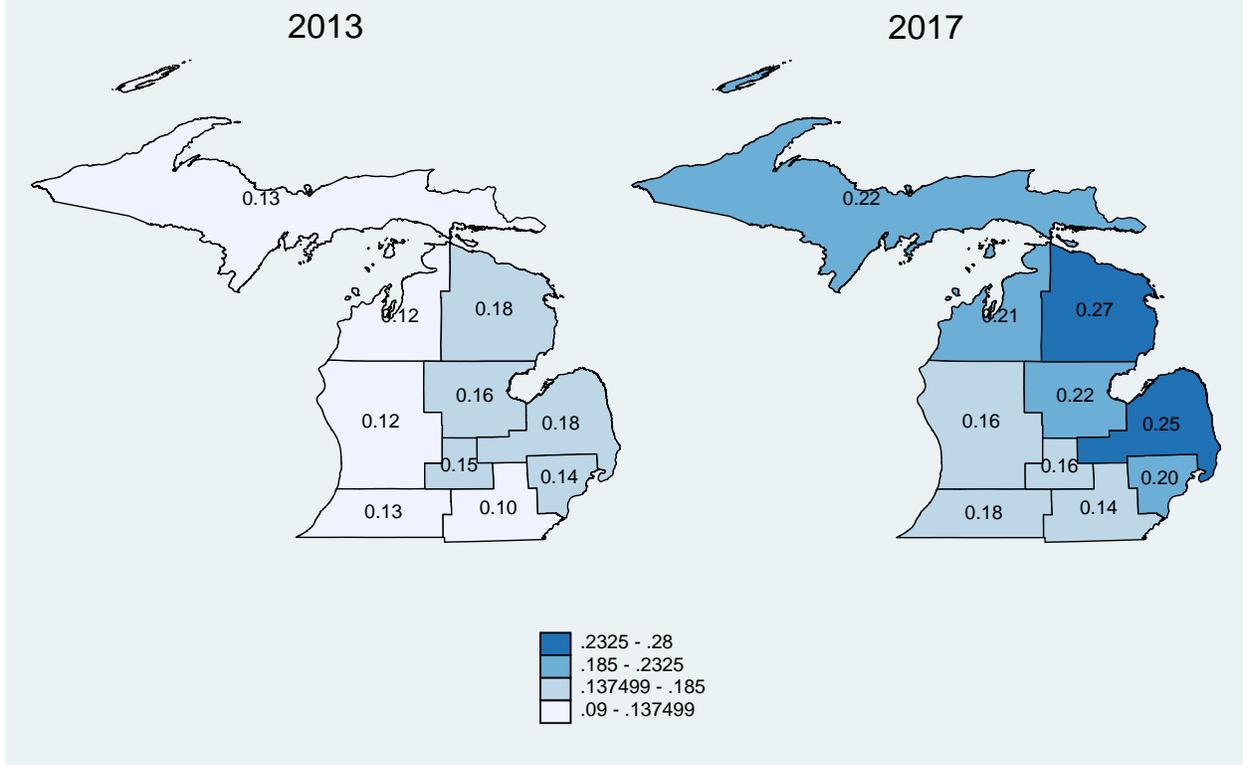
The data indicate that all regions of the state experienced reductions in uninsurance and significant increases in Medicaid between 2013 and 2017. The largest declines in uninsurance occurred in the regions with the highest rates of uninsurance at the outset: the Northeast (Region 3), where uninsurance dropped from 22.3 percent in 2013 to 10.6 percent in 2017; the Upper Peninsula (Region 1), where uninsurance dropped from 19.8 to 8.6 percent; and the Southwest (Region 8), where uninsurance dropped from 19.7 percent to 8.3 percent. Even the region with the lowest rate of uninsurance prior to expansion – the South Central region (Region 7), with 11.5 percent uninsured in 2013 – saw this rate cut approximately in half by 2017.

Figure 5: Fraction Uninsured in Michigan by Prosperity Region
All adults ages 19 - 64



Increases in Medicaid over this period ranged from a one percentage point increase in the South Central region, where Medicaid coverage increased from 15 to 16 percent of the adult population, to 9 percentage point gains in both the Upper Peninsula and the Northeast region.

Figure 6: Fraction with Medicaid in Michigan by Prosperity Region
All adults ages 19 - 64



C. CHANGES OVER TIME AMONG MICHIGAN ADULTS AGES 19 THROUGH 64 COMPARED TO STATES THAT DID NOT EXPAND THEIR MEDICAID PROGRAMS

Hypothesis II.1C	The uninsured population in Michigan will decrease significantly <i>relative to states that did not expand their Medicaid programs.</i>
Hypothesis II.2C	The Medicaid population in Michigan will increase significantly <i>relative to states that did not expand their Medicaid programs.</i>

The results presented in the previous section document significant gains in coverage in Michigan in 2014 and 2015 that were maintained in 2016 and 2017. How much of the substantial gain in coverage can be attributed to the Healthy Michigan Plan as opposed to the impact of the ACA’s private coverage reforms or other factors such as the ongoing economic recovery following the Great Recession and the increasing strength of the labor market in 2017? In order to address this question, we compare trends in Michigan with trends in states

that had not expanded their Medicaid programs as of 2017. Table 2 summarizes which states are considered non-expansion or expansion for purposes of our analysis.

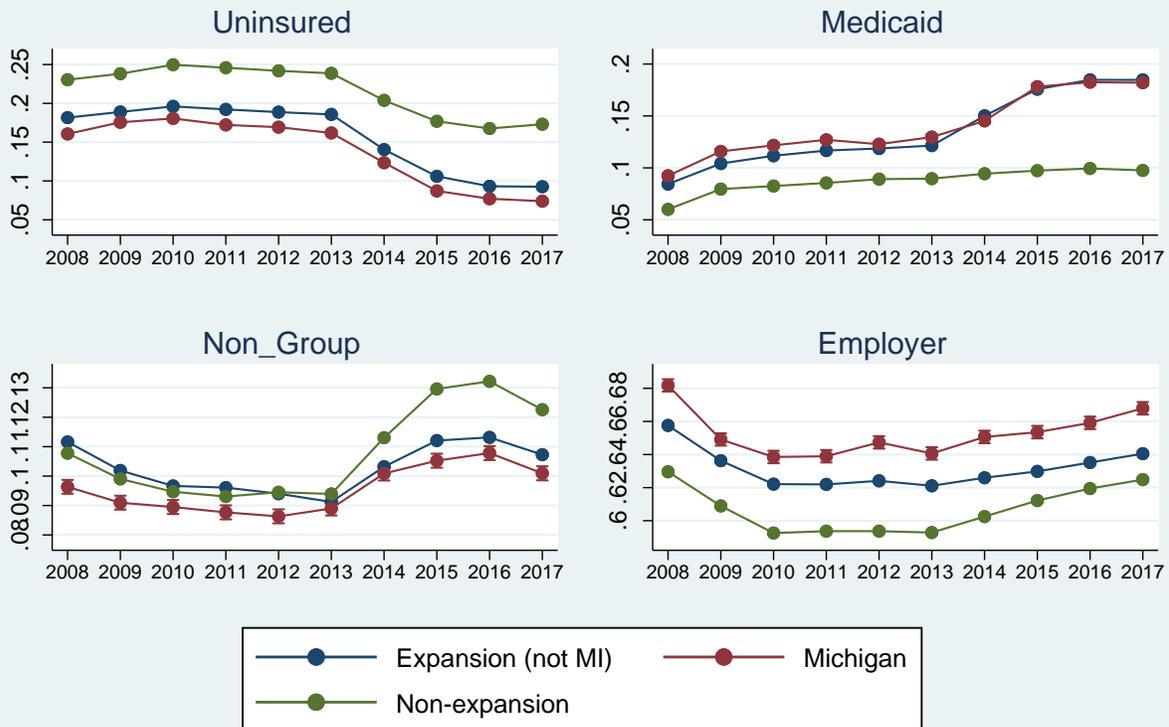
Table 2. State Medicaid Expansion summary

Expansion states (n=31 states + DC)	
Implemented in 2014 (n=27)	AR AZ CA CO CT DC DE HI IA IL KY MA MD MI MN ND NH NJ NM NV NY OH OR RI VT WA WV
Implemented in 2015 (n=3)	PA IN AK
Implemented in 2016 (n=2)	MT LA
Non-expansion states (n=19 as of 10/2018)	AL FL GA ID KS ME MO MS NC NE OK SC SD TN TX UT VA WI WY

Notes: Data are summarized from <https://www.kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>. Note that Maine, Virginia, Utah, North Dakota, and Idaho approved Medicaid expansion in 2017 or 2018 but those programs have not yet been implemented so they are treated as non-expansion states for purposes of our analysis, which uses data through 2017.

Figure 7 presents trends in coverage from 2008 through 2016 for three groups of adults: Michigan residents, residents of the 31 other expansion states, and residents of the 19 states that had not implemented Medicaid expansion as of December 2017. Prior to 2014, Michigan had lower rates of uninsurance than either other expansion states or non-expansion states; however, the patterns over time for the three groups of states were similar, with trends moving in parallel. Beginning in 2014, uninsurance dropped sharply in all three groups of states, with slightly larger declines in Michigan and other expansion states. These declines in uninsurance were driven by a sharp increase in Medicaid in Michigan and other expansion states. All states also experienced increases in non-group coverage; non-expansion states experienced significantly larger increases in non-group coverage than did Michigan and other expansion states, somewhat offsetting the Medicaid gains. All states also experienced increases in employer-sponsored coverage in 2014 and later. These trends – specifically, the fact that non-expansion states also saw large gains in insurance coverage – underscore the importance of having a comparison group to help determine what would have happened in Michigan in the absence of the Healthy Michigan Plan, in order to estimate the impact of this program.

Figure 7: Insurance coverage by state Medicaid status
Adults ages 19-64



Source: American Community Survey

In order to use non-expansion states as a comparison for estimating the *additional* effect of the Healthy Michigan Plan, we use multivariable regression analyses. These regression analyses allow us to measure whether the gap between the Michigan line and the line for the non-expansion states in Figure 7 is bigger in 2014, 2015, 2016, and 2017 than in the years before 2014. At the same time, the regression analyses allow us to control for other factors that may influence trends in coverage over time, such as individual levels of education or the state-level unemployment rate. We implement these regression analyses by retaining only observations for Michigan and non-expansion states and estimate a set of regression models of the following form:

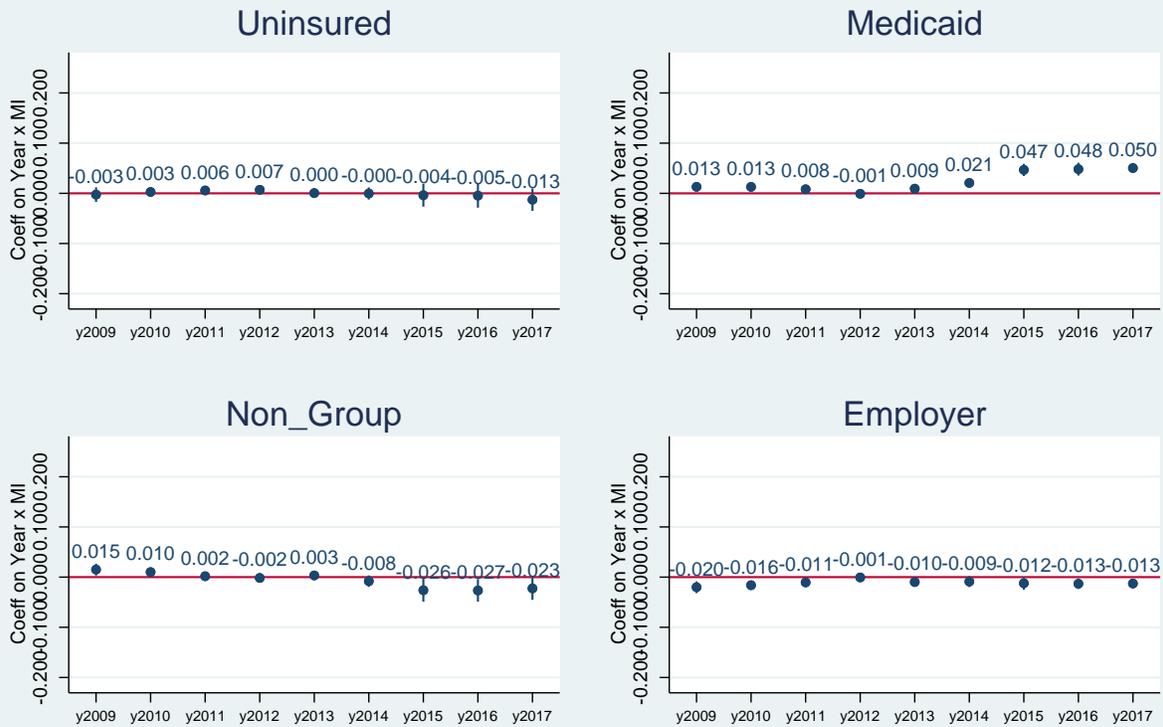
$$(1) Y_{ist} = \alpha_0 + \sum_{2009}^{2017} \alpha_{1t} YEAR_t + \sum_{2009}^{2017} \alpha_{2t} YEAR_t \cdot MICHIGAN + \alpha_3 \cdot STATE + \alpha_4 X_{ist} + \alpha_5 UNEMPLOYMENT RATE_{st} + e_{ist}$$

We estimate four regression models, corresponding to the four different insurance outcomes presented in Figure 7. That is, in the first model, the outcome variable Y for each observation is equal to 1 if the individual is uninsured and is equal to zero otherwise; the other models are structured similarly for the outcomes Medicaid, private non-group coverage, and employer coverage. Explanatory variables in the model include a vector of year dummies; a vector of state dummies; a vector of individual-level controls X_{ist} that includes age, education, race/ethnicity, gender, marital status, the interaction of gender and marital status, and an indicator for employment. The regressions also control for the state-level unemployment rate in each year. These models are estimated using linear probability models and are weighted using sampling weights provided on the ACS public use file.

The key explanatory variables in the model are the interactions between the indicator variable for Michigan residents and the indicator variables for each year. These interaction terms measure how much the gap between Michigan and the non-expansion states changed over time, relative to the gap in 2008. In Figure 8, we plot the coefficients on the $YEAR_t \times MICHIGAN$ dummies from each of the four models, with vertical lines showing 95% confidence intervals. Full results from these models (that is, the complete set of coefficients and standard errors, including all explanatory variables) are reported in Table A3 in the Appendix.

Figure 8 shows that the percentage point difference in the percentage of non-elderly adults who were uninsured between Michigan and non-expansion states has remained essentially constant over time, at about 7 percentage points. The estimated coefficient on the interaction term for 2017 implies that between 2008 and 2017, the uninsured rate fell by 1.3 percentage points more in Michigan than in non-expansion states. However, this estimate is not significantly different from zero.

Figure 8: Michigan vs. Non-Expansion States
Adults ages 19-64, covariate-adjusted



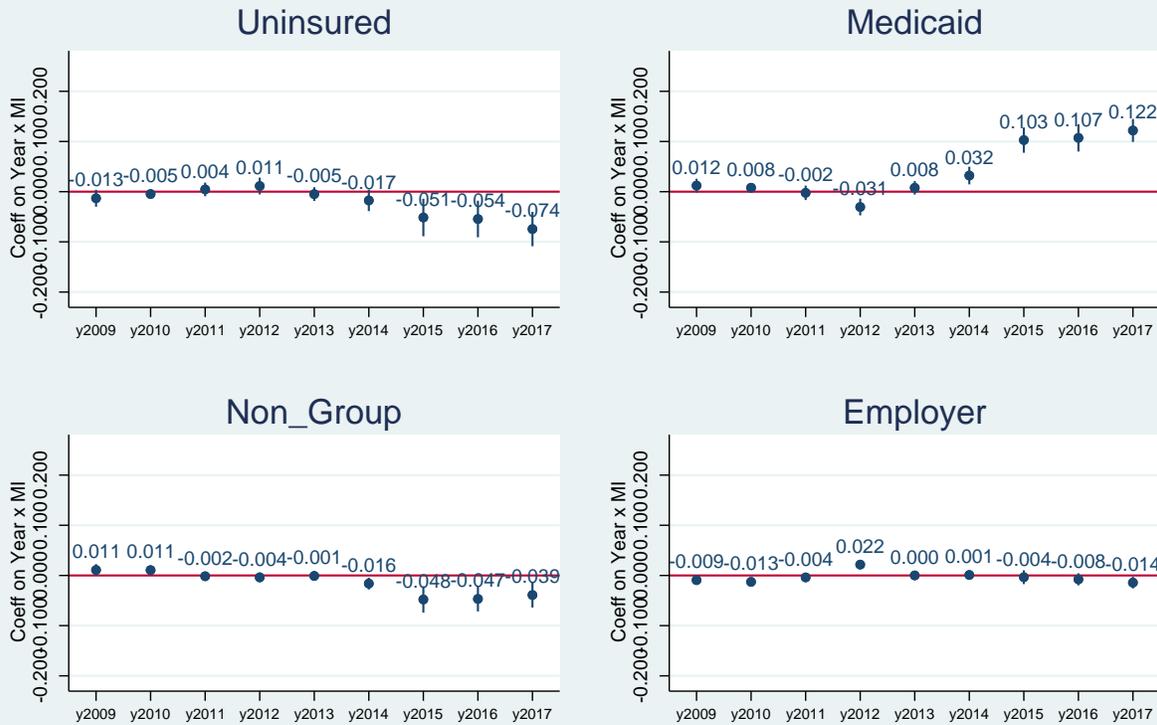
Source: American Community Survey

Figure 8 also shows that rates of Medicaid coverage increased more in Michigan than in non-expansion states following the implementation of the Healthy Michigan Plan. By 2017, the difference in Medicaid enrollment between Michigan and non-expansion states had grown by five percentage points. This implies that the Healthy Michigan Plan increased Medicaid coverage among non-elderly adults in the state by five percentage points relative to non-expansion states. These gains, however, were mostly offset by slightly larger gains of one to two percentage points in private non-group coverage and employer coverage in non-expansion states compared to Michigan, leading to the insignificant effect of the Healthy Michigan Plan on uninsurance noted in the previous paragraph.

We also ran a set of models restricting the sample to adults ages 19 to 64 with incomes less than or equal to 138 percent of the Federal Poverty Level (FPL). Key coefficients on the $YEAR_t \times MICHIGAN$ dummies from each of the four models are plotted in Figure 9. This figure shows significant declines in uninsurance and significant gains in Medicaid for the low-income population as a result of the Healthy Michigan Plan. In 2017, a 12-percentage-point gain in Medicaid coverage among low-income adults as a result of the Healthy Michigan Plan

translated into a 7.4 percentage point reduction in the rate of uninsurance for that group. Therefore, while the Healthy Michigan Plan may not have translated into a significant reduction in the fraction uninsured when measured among all adults ages 19 to 64 in Michigan, it did so for those with family with incomes below 138 percent of the FPL.

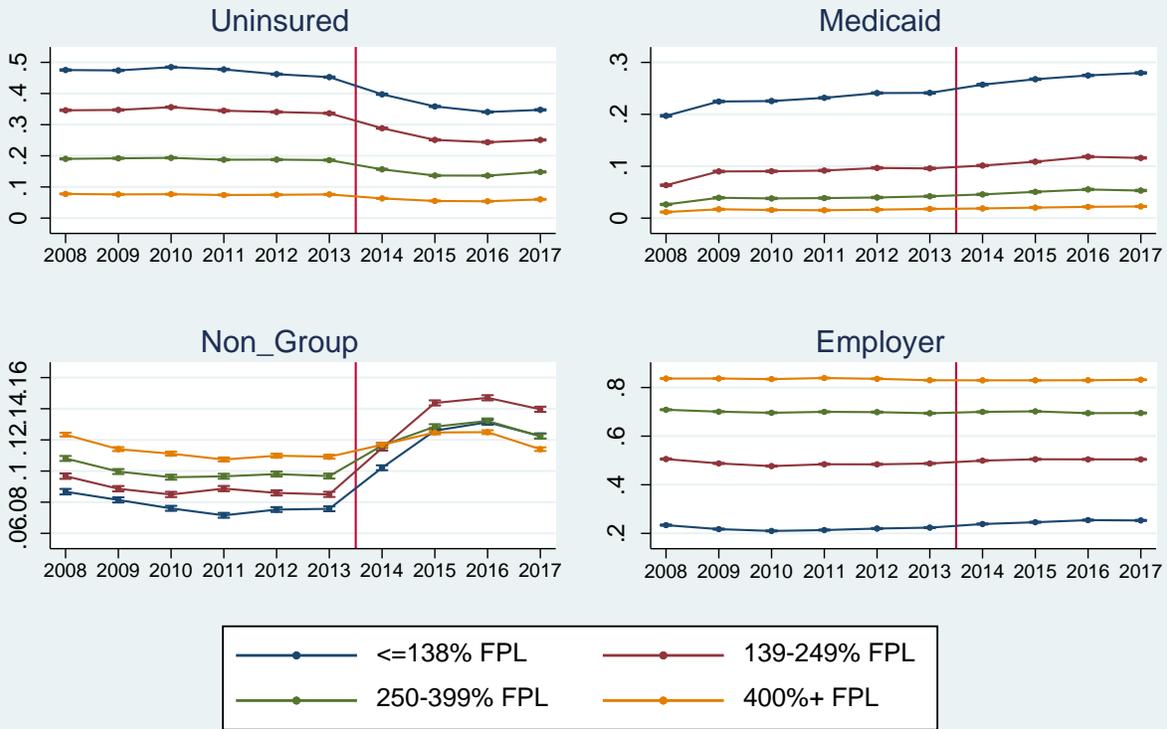
Figure 9: Michigan vs. Non-Expansion States
Adults ages 19-64 below 138% FPL, covariate-adjusted



Source: American Community Survey

Consistent with the significant gains in coverage for the low-income population as a result of the Healthy Michigan Plan, we note that non-expansion states experienced a much smaller reduction in coverage gradients with respect to income than were evident for Michigan in Figure 3 above. Figure 10 shows changes in coverage in non-expansion states for subgroups defined by income (that is, it is the same as Figure 3, but for non-expansion states instead of just for Michigan). Comparing Figure 10 with Figure 3 shows that Michigan achieved far greater reductions in inequality of health insurance coverage across income groups than non-expansion states did, suggesting this finding is a direct result of the Healthy Michigan Plan.

Figure 10: Insurance coverage in non-expansion states by family income
Adults ages 19-64



Source: American Community Survey

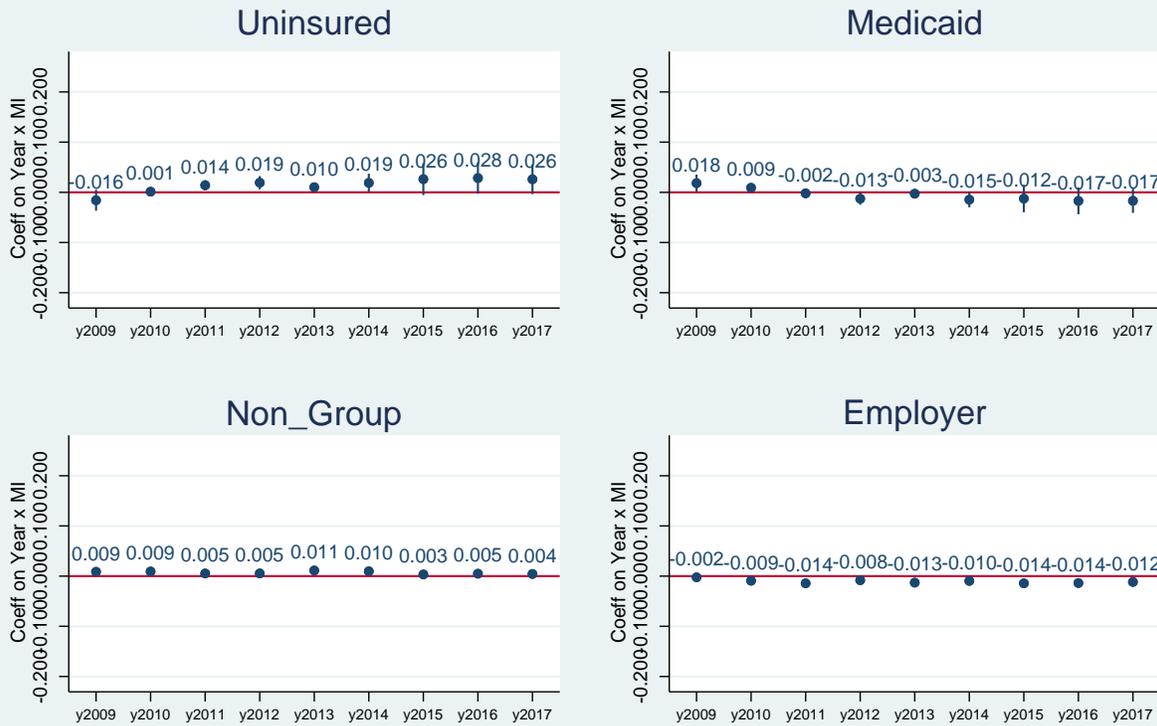
D. CHANGES OVER TIME AMONG MICHIGAN ADULTS AGES 19 THROUGH 64 COMPARED TO OTHER STATES THAT EXPANDED THEIR MEDICAID PROGRAMS

Hypothesis II.1D	The uninsured population in Michigan will decrease to a similar degree <i>relative to states that did expand their Medicaid programs.</i>
Hypothesis II.2D	The Medicaid population in Michigan will increase to a similar degree <i>relative to states that did expand their Medicaid programs.</i>

Finally, we compare Michigan to other expansion states. In order to do this, we retain only observations for Michigan and other expansion states and estimate a set of regression models based on equation (1) above. In this case, the coefficients on the $YEAR_t \times MICHIGAN$ dummies measure how the gap between Michigan and other expansion states changed between 2008 and later years. These coefficients are plotted in Figure 11. The results are consistently insignificant, as might have been expected from Figure 7, which shows very similar trends in

Michigan and other non-expansion states. Thus, we conclude that trends in uninsurance and Medicaid coverage in Michigan were very similar to those observed in other expansion states.

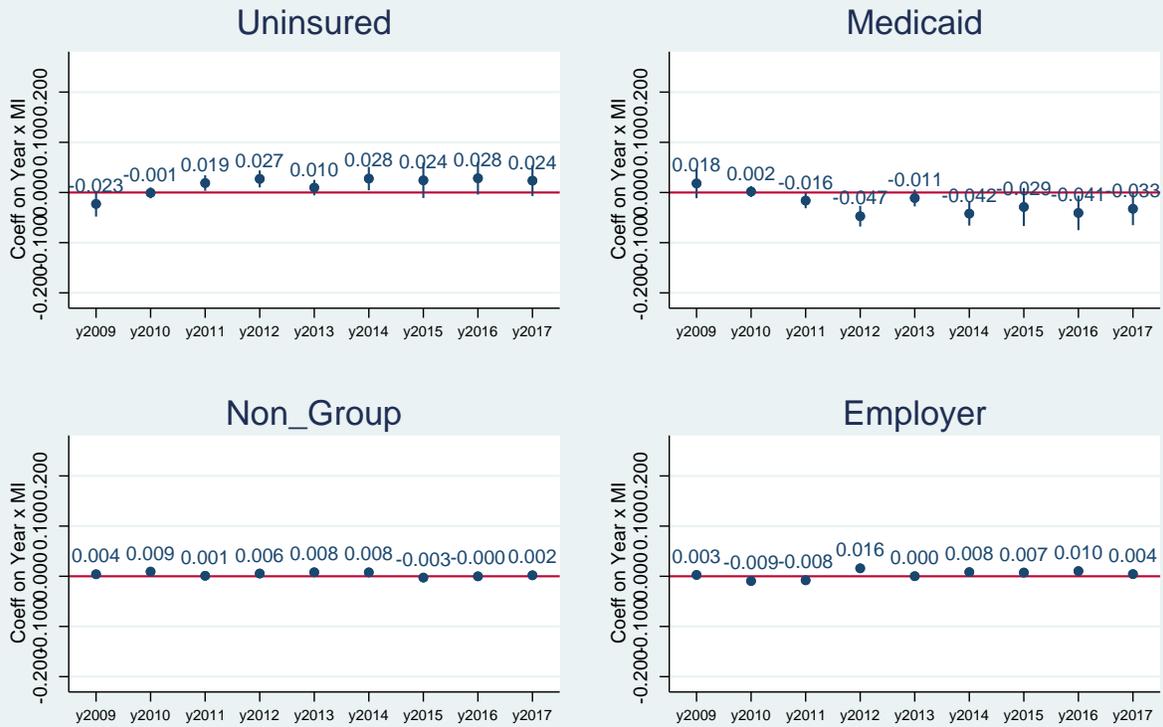
Figure 11: Michigan vs. Other Expansion States
Adults ages 19-64, covariate-adjusted



Source: American Community Survey

Repeating the same exercise using only low-income individuals also shows that trends in Michigan for this population are not significantly different from those in other expansion states (Figure 12).

Figure 12: Michigan vs. Expansion States
 Adults ages 19-64 below 138% FPL, covariate-adjusted



Source: American Community Survey

CONCLUSION

Our analysis shows that Medicaid coverage among non-elderly adults in Michigan increased by 5 percentage points between 2013 and 2017, from 14 percent to 19 percent. Uninsurance was cut in half over the same period, dropping from 16 percent to 7 percent. Gains in coverage were largest among lower-income Michiganders. Among non-elderly adults in families with incomes below 138 percent of the federal poverty level, uninsurance fell by 17 percentage points, dropping from 31 percent to 13 percent. Coverage increased in every one of the state’s 10 prosperity regions, with the largest overall gains in coverage occurring in the regions that had the lowest levels of coverage at the outset: the Upper Peninsula (Region 1) and the Northeast Region (Region 3).

Not all of these gains in coverage are directly attributable to the Healthy Michigan Plan; other ACA programs and the improving economy likely contributed as well. In order to isolate the effect of the Healthy Michigan Plan, we compared Michigan to states that did not expand their Medicaid programs. Based on this comparison, we conclude that the Healthy Michigan Plan increased Medicaid coverage among all non-elderly adults in Michigan by 5 percentage points

(a statistically significant increase) and reduced uninsurance by 1 percentage point in 2017 (a statistically insignificant change). Among non-elderly adults with family incomes below 138 percent of the federal poverty level in 2017, the Healthy Michigan Plan increased Medicaid coverage by 12 percentage points and reduced uninsurance by 7 percentage points (both statistically significant changes). We also compared Michigan to other states that did expand their Medicaid programs. Based on this comparison, we conclude that the Healthy Michigan Plan achieved coverage gains that were about the same as those observed in other expansion states.

Appendix tables

Table A1: Unweighted sample sizes in ACS data
Adults ages 19-64 with non-missing income

State Medicaid expansion status				
	Expansion (other than MI)	Michigan	Non-expansion	Total
2008	1,034,348	58,191	657,903	1,750,442
2009	1,044,889	57,915	665,247	1,768,051
2010	1,059,613	57,690	672,927	1,790,230
2011	1,057,481	57,235	663,586	1,778,302
2012	1,057,418	56,730	664,458	1,778,606
2013	1,064,028	57,138	670,406	1,791,572
2014	1,058,468	56,156	668,358	1,782,982
2015	1,058,741	55,700	670,600	1,785,041
2016	1,054,648	55,836	670,119	1,780,603
2017	1,061,785	55,894	679,951	1,797,630
Total	10,551,419	568,485	6,683,555	17,803,459

Note: See Table 1 for a listing of which states are considered expansion versus non-expansion.

Table A2: Trends in Insurance Coverage, 2008 – 2017
 Adults ages 19 through 64 with non-missing income
 American Community Survey
 (Data underlying Figure 1 and Figure 7)

	Expansion states other than MI	Michigan	Non-expansion states
Uninsured			
2008	0.181	0.162	0.230
2009	0.189	0.180	0.238
2010	0.196	0.184	0.250
2011	0.192	0.176	0.246
2012	0.189	0.171	0.242
2013	0.186	0.162	0.239
2014	0.140	0.123	0.204
2015	0.106	0.086	0.177
2016	0.093	0.075	0.168
2017	0.093	0.073	0.173
Medicaid			
2008	0.084	0.099	0.060
2009	0.104	0.123	0.080
2010	0.111	0.130	0.083
2011	0.116	0.137	0.086
2012	0.118	0.131	0.089
2013	0.121	0.138	0.090
2014	0.150	0.157	0.094
2015	0.175	0.191	0.097
2016	0.184	0.194	0.099
2017	0.184	0.193	0.098
Private Non-Group			
2008	0.111	0.097	0.108
2009	0.102	0.092	0.099
2010	0.097	0.091	0.095
2011	0.096	0.089	0.093
2012	0.094	0.088	0.095
2013	0.091	0.091	0.094
2014	0.103	0.101	0.113
2015	0.112	0.105	0.130
2016	0.113	0.108	0.132
2017	0.107	0.101	0.123

Table continues on next page

Table A2 (continued): Trends in Insurance Coverage, 2008 – 2017
 Adults ages 19 through 64 with non-missing income
 American Community Survey
 (Data underlying Figure 1 and Figure 7)

	Expansion states other than MI	Michigan	Non-expansion states
Employer-Sponsored Coverage			
2008	0.658	0.674	0.630
2009	0.637	0.638	0.609
2010	0.623	0.628	0.593
2011	0.623	0.626	0.594
2012	0.625	0.638	0.594
2013	0.622	0.632	0.593
2014	0.627	0.642	0.603
2015	0.630	0.644	0.612
2016	0.636	0.652	0.619
2017	0.641	0.659	0.625

Table A3: Full results of regression models, MI vs. all non-expansion states
 Results are presented as coefficient with standard error below in parentheses

	All adults ages 19-64				Low-income adults ages 19-64			
	(1) Uninsured	(2) Medicaid	(3) Non_Group	(4) Employer	(5) Uninsured	(6) Medicaid	(7) Non_Group	(8) Employer
MI x y2009	-0.00257 (0.00698)	0.0130*** (0.00257)	0.0150* (0.00557)	-0.0202** (0.00558)	-0.0127 (0.00773)	0.0103 (0.00641)	0.0110 (0.00550)	-0.00813* (0.00349)
MI x y2010	0.00267 (0.00293)	0.0128*** (0.00156)	0.00999*** (0.00160)	-0.161*** (0.00336)	-0.00399 (0.00294)	0.00637 (0.00351)	0.0103*** (0.00240)	-0.119*** (0.00188)
MI x y2011	0.00568* (0.00265)	0.00814* (0.00296)	0.00175 (0.00307)	-0.0106** (0.00318)	0.00489 (0.00656)	-0.00399 (0.00694)	-0.00211 (0.00308)	-0.00218 (0.00392)
MI x y2012	0.00697 (0.00351)	-0.000936 (0.00355)	-0.00164 (0.00330)	-0.000661 (0.00352)	0.0123 (0.00802)	-0.0313*** (0.00804)	-0.00452 (0.00450)	0.0219*** (0.00396)
MI x y2013	0.000475 (0.00224)	0.00934** (0.00279)	0.00333 (0.00181)	-0.00979* (0.00367)	-0.00392 (0.00663)	0.00648 (0.00650)	-0.00111 (0.00260)	-0.000134 (0.00248)
MI x y2014	-0.000343 (0.00573)	0.0207*** (0.00407)	-0.00803 (0.00545)	-0.00890 (0.00518)	-0.0184 (0.0102)	0.0325** (0.00847)	-0.0168** (0.00558)	0.00221 (0.00408)
MI x y2015	-0.00384 (0.0108)	0.0467*** (0.00580)	-0.0262* (0.0109)	-0.0123 (0.00622)	-0.0505* (0.0179)	0.103*** (0.0123)	-0.0496*** (0.0124)	-0.00295 (0.00671)
MI x y2016	-0.00461 (0.0114)	0.0482*** (0.00612)	-0.0266* (0.0107)	-0.0132* (0.00495)	-0.0530** (0.0175)	0.107*** (0.0131)	-0.0477*** (0.0119)	-0.00763 (0.00577)

MI x y2017	-0.0127 (0.0106)	0.0503*** (0.00469)	-0.0225 (0.0109)	-0.0127** (0.00406)		-0.0738*** (0.0163)	0.121*** (0.0110)	-0.0397** (0.0118)	-0.0141* (0.00560)
year2009	-0.0164 (0.0120)	0.0311*** (0.00511)	0.00935 (0.0101)	-0.0232* (0.00819)		-0.0380* (0.0164)	0.0574*** (0.0111)	0.0113 (0.0114)	-0.0225** (0.00742)
year2010	-0.00950 (0.0128)	0.0330*** (0.00609)	0.00620 (0.0113)	-0.0341** (0.00884)		-0.0307 (0.0181)	0.0605*** (0.0136)	0.00619 (0.0119)	-0.0274** (0.00831)
year2011	-0.00943 (0.0102)	0.0332*** (0.00550)	0.000681 (0.00942)	-.0303*** (0.00755)		-0.0304 (0.0155)	0.0610*** (0.0125)	-0.00164 (0.00996)	-0.0220** (0.00753)
year2012	-0.00653 (0.00688)	0.0328*** (0.00473)	-0.00397 (0.00619)	-.0277*** (0.00517)		-0.0318* (0.0121)	0.0620*** (0.0105)	-0.00455 (0.00745)	-0.0158* (0.00564)
year2013	-0.00555 (0.00344)	0.0308*** (0.00362)	-0.00850* (0.00349)	-.0267*** (0.00413)		-0.0319** (0.00907)	0.0568*** (0.00814)	-0.00868 (0.00428)	-0.0116** (0.00353)
year2014	-0.0343*** (0.00417)	0.0319*** (0.00327)	0.00507 (0.00328)	-0.0146* (0.00532)		-0.0758*** (0.00727)	0.0640*** (0.00669)	0.0122** (0.00344)	0.00538 (0.00333)
year2015	-0.0566*** (0.00535)	0.0328*** (0.00357)	0.0174*** (0.00383)	-0.00382 (0.00743)		-0.108*** (0.00801)	0.0700*** (0.00829)	0.0317*** (0.00511)	0.0151** (0.00527)
year2016	-0.0630*** (0.00525)	0.0348*** (0.00344)	0.0181*** (0.00268)	0.00228 (0.00630)		-0.122*** (0.00638)	0.0736*** (0.00876)	0.0349*** (0.00362)	0.0261*** (0.00325)
year2017	-0.0530*** (0.00514)	0.0319*** (0.00198)	0.00500* (0.00225)	0.00712 (0.00705)		-0.107*** (0.00417)	0.0732*** (0.00549)	0.0223*** (0.00309)	0.0252*** (0.00374)

Single male		Omitted (base category)				Omitted (base category)		
Male	-0.116***	-0.00736**	-0.00444*	0.152***	-0.0906***	0.0453***	0.00141	0.0676***
X married	(0.00656)	(0.00257)	(0.00185)	(0.00770)	(0.0108)	(0.00968)	(0.00238)	(0.00496)
Female	-0.0517***	0.0730***	-0.00457***	0.000516	-0.0953***	0.119***	-0.00634**	0.0104**
X single	(0.00482)	(0.00725)	(0.00106)	(0.00391)	(0.00795)	(0.0118)	(0.00197)	(0.00313)
Female	-0.128***	-0.0301***	-0.00275	0.198***	-0.0729***	0.0138	0.00782*	0.0998***
X married	(0.00600)	(0.00328)	(0.00231)	(0.00505)	(0.0140)	(0.0127)	(0.00324)	(0.00503)
White non-Hispanic		Omitted (base category)				Omitted (base category)		
Black non-Hispanic	0.0238***	0.0543***	-0.0323***	-0.0366***	-0.00757	0.0737***	-0.0392***	-0.0176**
	(0.00303)	(0.00540)	(0.00247)	(0.00400)	(0.00484)	(0.00552)	(0.00282)	(0.00464)
Asian non-Hispanic	0.0518***	-0.0153**	0.0417***	-0.0696***	0.0420***	-0.0763***	0.0801***	-0.0257*
	(0.00488)	(0.00486)	(0.00439)	(0.00799)	(0.00790)	(0.0114)	(0.00759)	(0.00930)
Other non-Hispanic	0.0610***	0.0322***	-0.0228***	0.0673***	0.0507**	0.0411***	-0.0381***	0.0538***
	(0.0128)	(0.00605)	(0.00419)	(0.00912)	(0.0162)	(0.00867)	(0.00460)	(0.00842)
Hispanic (any race)	0.187***	-0.0204*	-0.0286***	-0.141***	0.208***	-0.0796**	-0.0420***	0.0863***
	(0.0152)	(0.00911)	(0.00403)	(0.00519)	(0.0209)	(0.0219)	(0.00241)	(0.00416)
Age 19-25		Omitted (base category)				Omitted (base category)		

Age 26-34	0.0352*** (0.00366)	0.0417*** (0.00500)	-0.0226*** (0.00212)	-0.0747*** (0.00628)	0.0779*** (0.00535)	0.0860*** (0.0136)	-0.0424*** (0.00325)	-0.142*** (0.0105)
Age 35-54	-0.0164* (0.00636)	0.0264*** (0.00253)	-0.00798*** (0.00204)	-0.0278*** (0.00592)	0.0490*** (0.00784)	0.0745*** (0.00890)	-0.0281*** (0.00295)	-0.135*** (0.0107)
Age 55-64	-0.0815*** (0.00959)	0.00334 (0.00599)	0.0316*** (0.00144)	0.00539 (0.00574)	-0.0607*** (0.0145)	0.0646*** (0.0110)	0.0182*** (0.00264)	-0.113*** (0.0101)
Non-worker	Omitted (base category)				Omitted (base category)			
Worker	-0.0726*** (0.00428)	-0.166*** (0.00798)	-0.0217*** (0.00126)	0.297*** (0.00585)	0.0426*** (0.00395)	-0.182*** (0.00669)	0.00812*** (0.00206)	0.170*** (0.00677)
Education < high school	Omitted (base category)				Omitted (base category)			
Education = High school	-0.117*** (0.0127)	-0.0698*** (0.0110)	0.0243*** (0.00243)	0.164*** (0.00732)	-0.0348*** (0.00729)	-0.0526*** (0.0107)	0.0196*** (0.00303)	0.0624*** (0.00198)
Education = Some coll.	-0.198*** (0.0175)	-0.107*** (0.0120)	0.0449*** (0.00234)	0.264*** (0.00971)	-0.121*** (0.0106)	-0.102*** (0.0115)	0.0604*** (0.00393)	0.158*** (0.00447)
Education = College	-0.265*** (0.0215)	-0.139*** (0.0148)	0.0648*** (0.00332)	0.349*** (0.0122)	-0.166*** (0.0125)	-0.183*** (0.0168)	0.151*** (0.00512)	0.205*** (0.00676)
Education > College	-0.281*** (0.0218)	-0.139*** (0.0148)	0.0581*** (0.00397)	0.379*** (0.0106)	-0.190*** (0.0145)	-0.206*** (0.0188)	0.180*** (0.00819)	0.239*** (0.0110)

Unemploy- ment rate	0.00584 (0.00340)	-.00500*** (0.00114)	-0.00547 (0.00278)	0.00420 (0.00232)	0.0103* (0.00415)	-.00940*** (0.00242)	-0.00468 (0.00298)	0.00312 (0.00177)
Constant	0.405*** (0.0293)	0.299*** (0.0139)	0.146*** (0.0168)	0.147*** (0.0154)	0.327*** (0.0233)	0.343*** (0.0137)	0.142*** (0.0176)	0.188*** (0.0152)
N	7252040	7252040	7252040	7252040	1413797	1413797	1413797	1413797
adj. R-sq	0.154	0.140	0.017	0.228	0.110	0.134	0.053	0.116

Standard errors in parentheses

* p<0.05 ** p<0.01 *** p<0.001

Note: Regressions also include a full set of state dummies not reported in this table.

Table A4: Full results of regression models, MI vs. other expansion states
 Results are presented as coefficient with standard error below in parentheses

	All adults ages 19-64				Low-income adults ages 19-64			
	(1) Uninsured	(2) Medicaid	(3) Non_Group	(4) Employer	(5) Uninsured	(6) Medicaid	(7) Non_Group	(8) Employer
MI x y2009	-0.0158 (0.0102)	0.0183* (0.00839)	0.00866*** (0.00117)	-0.00229 (0.00310)	-0.0220 (0.0123)	0.0164 (0.0143)	0.00443 (0.00339)	0.00334 (0.00375)
MI x y2010	0.00129 (0.00295)	0.00916*** (0.00243)	0.00925*** (0.00104)	-0.00922*** (0.00129)	-0.000696 (0.00526)	0.000539 (0.00522)	0.00904*** (0.00168)	-.00833*** (0.00218)
MI x y2011	0.0141** (0.00504)	-0.00193 (0.00459)	0.00527*** (0.00129)	-0.0144*** (0.00213)	0.0190* (0.00751)	-0.0179* (0.00750)	0.000325 (0.00203)	-0.00587* (0.00274)
MI x y2012	0.0192** (0.00652)	-0.0126* (0.00597)	0.00539** (0.00156)	-0.00820** (0.00262)	0.0275** (0.00835)	-.0477*** (0.0101)	0.00490* (0.00236)	0.0163*** (0.00264)
MI x y2013	0.0102* (0.00445)	-0.00273 (0.00425)	0.0113*** (0.00159)	-0.0129*** (0.00207)	0.0103 (0.00757)	-0.0123 (0.00818)	0.00787** (0.00244)	0.000104 (0.00259)
MI x y2014	0.0189* (0.00893)	-0.0146 (0.00749)	0.00960*** (0.00196)	-0.00959** (0.00299)	0.0266* (0.0115)	-0.0418** (0.0117)	0.00724** (0.00232)	0.00956** (0.00346)
MI x y2015	0.0263 (0.0156)	-0.0124 (0.0134)	0.00333 (0.00236)	-0.0143*** (0.00377)	0.0247 (0.0173)	-0.0284 (0.0186)	-0.00445 (0.00326)	0.00820* (0.00315)
MI x y2016	0.0285	-0.0171	0.00485*	-0.0138**	0.0288	-0.0413*	-0.000875	0.0112**

	(0.0154)	(0.0131)	(0.00189)	(0.00416)	(0.0160)	(0.0168)	(0.00320)	(0.00340)
MI x y2017	0.0260 (0.0145)	-0.0168 (0.0118)	0.00420 (0.00214)	-0.0116* (0.00444)	0.0238 (0.0149)	-0.0328* (0.0160)	0.00122 (0.00366)	0.00458 (0.00397)
year2009	-0.0316* (0.0146)	0.0393** (0.0121)	-0.00450 (0.00270)	-0.00195 (0.00425)	-0.0533** (0.0178)	0.0706*** (0.0184)	-0.00225 (0.00370)	-0.0107* (0.00474)
year2010	-0.0317 (0.0179)	0.0476** (0.0147)	-0.00945** (0.00261)	-0.00886 (0.00538)	-0.0550* (0.0213)	0.0823*** (0.0225)	-0.00874* (0.00406)	-0.0121* (0.00583)
year2011	-0.0295 (0.0152)	0.0480*** (0.0128)	-0.0114*** (0.00218)	-0.00965* (0.00467)	-0.0560** (0.0189)	0.0837*** (0.0202)	-0.0126*** (0.00342)	-0.00851 (0.00487)
year2012	-0.0243* (0.0110)	0.0464*** (0.00962)	-0.0150*** (0.00189)	-0.0121** (0.00370)	-0.0530*** (0.0135)	0.0830*** (0.0156)	-0.0178*** (0.00297)	-0.00577 (0.00365)
year2013	-0.0195* (0.00730)	0.0444*** (0.00656)	-0.0190*** (0.00180)	-0.0178*** (0.00266)	-0.0524*** (0.0106)	0.0796*** (0.0114)	-0.0199*** (0.00275)	-0.00819* (0.00316)
year2014	-0.0498*** (0.00590)	0.0649*** (0.00523)	-0.00951*** (0.00180)	-0.0191*** (0.00235)	-0.121*** (0.00980)	0.138*** (0.00932)	-0.00880*** (0.00184)	-0.00481 (0.00382)
year2015	-0.0736*** (0.00658)	0.0848*** (0.00594)	-0.00242 (0.00190)	-0.0196*** (0.00270)	-0.174*** (0.0125)	0.193*** (0.0122)	-0.00354 (0.00271)	-0.00652 (0.00406)
year2016	-0.0811*** (0.00633)	0.0924*** (0.00521)	-0.00216 (0.00153)	-0.0180*** (0.00330)	-0.193*** (0.0125)	0.213*** (0.0118)	-0.000361 (0.00268)	-0.00521 (0.00354)
year2017	-0.0755***	0.0910***	-	0.00898***	-0.0173***	-0.192***	0.217***	-0.00581

	(0.00663)	(0.00536)	(0.00172)	(0.00391)	(0.0137)	(0.0139)	(0.00402)	(0.00549)
Single male	Omitted (base category)				Omitted (base category)			
Male	-0.102***	-0.0197***	-0.00932***	0.155***	-0.0786***	0.0517***	-0.00528**	0.0611***
X married	(0.00392)	(0.00318)	(0.00137)	(0.00465)	(0.00696)	(0.00672)	(0.00150)	(0.00471)
Female	-0.0618***	0.0883***	-0.00527***	-0.00701*	-0.108***	0.135***	-0.00659***	0.00378
X single	(0.00211)	(0.00418)	(0.000999)	(0.00333)	(0.00390)	(0.00721)	(0.00181)	(0.00273)
Female	-0.115***	-0.0406***	-0.00795***	0.195***	-0.0863***	0.0450***	-0.00228	0.0875***
	(0.00391)	(0.00351)	(0.00160)	(0.00350)	(0.00730)	(0.00823)	(0.00192)	(0.00406)
White non-Hispanic	Omitted (base category)				Omitted (base category)			
Black non-Hispanic	0.0255***	0.0829***	-0.0351***	-0.0639***	-0.000388	0.0939***	-0.0456***	-0.0420***
	(0.00445)	(0.00469)	(0.00413)	(0.00798)	(0.00469)	(0.00590)	(0.00500)	(0.00401)
Asian non-Hispanic	0.0426***	0.0163	0.0241***	-0.0759***	0.0475***	-0.0455**	0.0629***	-0.0545***
	(0.00623)	(0.0121)	(0.00481)	(0.0178)	(0.00629)	(0.0156)	(0.00926)	(0.0108)
Other non-Hispanic	0.0537***	0.0519***	-0.0243***	-0.0755***	0.0475***	0.0516***	-0.0383***	-0.0540***
	(0.0109)	(0.00680)	(0.00397)	(0.0142)	(0.0100)	(0.00669)	(0.00481)	(0.00674)
Hispanic	0.137***	0.0195	-0.0421***	-0.118***	0.163***	-0.0553**	-0.0466***	-0.0647***
	(0.00750)	(0.0100)	(0.00711)	(0.0144)	(0.0120)	(0.0157)	(0.00642)	(0.00595)
Age 19-25	Omitted (base category)				Omitted (base category)			

Age 26-34	0.0291*** (0.00244)	0.0537*** (0.00418)	-0.0240*** (0.00117)	-0.0770*** (0.00588)	0.0567*** (0.00386)	0.116*** (0.0108)	-0.0469*** (0.00226)	-0.145*** (0.0118)
Age 35-54	-0.0132*** (0.00176)	0.0346*** (0.00300)	-0.0107*** (0.00128)	-0.0325*** (0.00375)	0.0302*** (0.00542)	0.115*** (0.00967)	-0.0422*** (0.00293)	-0.138*** (0.0115)
Age 55-64	-0.0553*** (0.00292)	-0.00157 (0.00427)	0.0261*** (0.00220)	-0.00492 (0.00434)	-.0377*** (0.00610)	0.0824*** (0.00929)	-0.00516 (0.00625)	-0.120*** (0.00932)
Non-worker	Omitted (base category)				Omitted (base category)			
Worker	-0.0491*** (0.00467)	-0.195*** (0.00613)	-0.0270*** (0.00171)	0.296*** (0.00442)	0.0509*** (0.00454)	-0.168*** (0.00676)	-0.000931 (0.00127)	0.151*** (0.00550)
Non-worker	Omitted (base category)				Omitted (base category)			
Education < high school	Omitted (base category)				Omitted (base category)			
Education = High school	-0.0963*** (0.00714)	-0.0947*** (0.00777)	0.0221*** (0.00139)	0.170*** (0.00307)	-.0249*** (0.00602)	-.0501*** (0.00990)	0.0172*** (0.00152)	0.0542*** (0.00291)
Education = Some coll.	-0.155*** (0.00927)	-0.142*** (0.00768)	0.0398*** (0.00200)	0.261*** (0.00453)	-.0869*** (0.00702)	-0.103*** (0.0104)	0.0551*** (0.00263)	0.137*** (0.00533)
Education = College	-0.194*** (0.0103)	-0.200*** (0.00925)	0.0593*** (0.00348)	0.339*** (0.00427)	-.0917*** (0.00881)	-0.239*** (0.0109)	0.147*** (0.00598)	0.194*** (0.00928)
Education >	-0.208***	-0.208***	0.0506***	0.371***	-0.108***	-0.292***	0.185***	0.235***

College	(0.0114)	(0.0110)	(0.00358)	(0.00614)	(0.00904)	(0.0142)	(0.00818)	(0.0119)
Unemployment rate	0.0112* (0.00444)	-0.00771* (0.00365)	-.00189*** (0.000490)	-0.00283* (0.00131)	0.0148** (0.00528)	-0.0128* (0.00581)	-0.00112 (0.000978)	-0.00116 (0.00137)
Constant	0.342*** (0.0172)	0.421*** (0.0186)	0.0865*** (0.00363)	0.165*** (0.00722)	0.251*** (0.0192)	0.524*** (0.0267)	0.0659*** (0.00550)	0.174*** (0.0101)
N	11119904	11119904	11119904	11119904	1941773	1941773	1941773	1941773
adj. R-sq	0.123	0.167	0.016	0.229	0.108	0.137	0.056	0.104

Standard errors in parentheses

* p<0.05 ** p<0.01 *** p<0.001

Note: Regressions also include a full set of state dummies not reported in this table.