



# Impacts of the 2014 Medicaid Expansion on Preconception Health among Women of Reproductive Age

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INFORMING THE DEBATE

Michigan Applied Public Policy Research Brief



Institute for Public Policy  
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# INFORMING THE DEBATE

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The MAPPR Program supports university faculty-led research projects that are focused on current issues being discussed in communities across the State, and often across the nation. A paper briefing of the research follows completion of the project wherein related policy implications are presented.

The MAPPR Program came about in 1992 following a two-day meeting with leaders from the business sector, nonprofit agencies, and university faculty and staff. The group recognized the pressure on urban core leaders to make critical choices having long-term impact on communities with little access to research-based information to consider or support their decisions. A commitment to generate a bank of research as a reference was set in the framework of the MAPPR Program.

Since, the MAPPR Program has bridged the statehouse and the university while cultivating multidimensional connections among community decision makers. The projects as well as the briefings serve as a central point of discussion and brainstorming. The briefings are reviewed by not only Michigan stakeholders, but also by other states' frontrunners who share the need for evidence-based research.

Additional information about IPPSR and the Michigan Applied Public Policy Research (MAPPR) Program is available at [ippsr.msu.edu](http://ippsr.msu.edu) or by contacting AnnMarie Schneider, Grant Administrator at [annmarie@msu.edu](mailto:annmarie@msu.edu).

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## MAPPR Policy Research Brief

### Impacts of the 2014 Medicaid Expansion on Preconception Health among Women of Reproductive Age

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**MICHIGAN STATE UNIVERSITY**

Institute for Public Policy and Social Research

## EXECUTIVE SUMMARY

A woman giving birth in the United States is 50% more likely to deliver preterm compared to a woman in Canada or the United Kingdom (OECD, 2016). Scholars and public health officials have long hypothesized that increased access to prenatal care would lower the rates of adverse birth outcomes seen in the US to levels seen in other developed nations (IOM, 1985). While the expansion of Medicaid to cover low-income pregnant women in the 1980s and '90s did increase access to prenatal care, its impacts on adverse birth outcomes were marginal (Dave et al., 2008; Howell, 2001). There is now growing recognition that preventive care during the prenatal period is often too late to reduce risks from factors such as smoking, alcohol use, poor nutrition, chronic disease, and unintended pregnancy (all of which increase the risk for adverse birth outcomes). Instead, preconception care may be key to improving women's health at the outset of pregnancy and subsequently decreasing rates of adverse birth outcomes (Atrash et al., 2008; March of Dimes, 2002; ACOG, 2005; Johnson et al., 2006). However, prior to the expansion of Medicaid under the Affordable Care Act (ACA) in 2014, over one-third of low-income women of reproductive age in the United States lacked health insurance and, thus, access to preventive healthcare during the preconception phase of their lives.

The expansion of Medicaid under the Affordable Care Act (ACA) allowed states to expand coverage to all non-elderly Americans with incomes up to 138% of the federal poverty level (FPL). Yet, due to a 2012 U.S. Supreme Court ruling, not all states have expanded coverage; by January 2014, only 20 states had expanded Medicaid under the ACA and several states expanded coverage in later years. This state-level variation in the 2014 Medicaid Expansion under the ACA offers a unique natural experiment within which to test the hypothesis that increasing health care coverage for low-income women can improve preconception health care access, utilization of preventive care, chronic disease management, overall health, and health behaviors. Thus, the goal of the proposed research was to determine the impacts of the ACA Medicaid expansion on prevalence of these outcomes among low-income women of reproductive age living in states that expanded Medicaid and similar women in states that did not expand Medicaid.

According to our analytical findings, and several recent publications, the ACA Medicaid expansion has led to increased health insurance coverage for low-income women of reproductive age (Johnston et al., 2018; Wehby and Lyu, 2018; Simon et al., 2017). Moreover, the increase in insurance due to the ACA Medicaid expansion increased the use of healthcare services that have the potential to improve maternal preconception health and subsequent pregnancy health, including increased use of prescription medications for contraception and smoking cessation as well as testing, diagnosis and treatment of chronic diseases (Wherry and Miller, 2016; Maclean et al., 2017; Ghosh et al., 2017). Our research is the first work of its kind to examine whether the gains in health care coverage due to Medicaid expansion have translated to improved health among women of reproductive age in domains known to be associated with pregnancy health, such as chronic disease management, smoking, alcohol use, and obesity.

To this end, our approach was to examine the Behavioral Risk Factor Surveillance System (BRFSS) dataset using a quasi-experimental research design, exploiting the state-to-state variation in Medicaid expansion and eligibility in a rigorous and innovative empirical approach.

Data from this research project demonstrated that the Medicaid expansion was significantly associated with increased likelihood of having health insurance, having had a pap test in the last 3 years, taking blood pressure medication if diagnosed with hypertension, and taking insulin if diagnosed with diabetes. Furthermore, our research shows that the Medicaid expansion was significantly associated with decreases in heavy drinking and avoiding health care due to cost. The expansion did not appear to impact other measures of preventive health care, days not in good physical or mental health, smoking cessation attempts or BMI. These improvements were largest among women with no dependent children and married women.

As such, the ACA Medicaid expansion has the potential to significantly improve preconception health and consequently, to improve the health of women of reproductive age, pregnant women, and infants. Therefore, national and statewide policy efforts must aim to expand, maintain, and sustain Medicaid coverage, particularly for these populations. Our research group will continue seeking to understand the impacts of Medicaid expansion on pregnancy health and birth outcomes in future work.

## OVERVIEW OF THE ISSUE

A woman giving birth in the U.S. is 50% more likely to deliver preterm compared to a woman in Canada or the United Kingdom (March of Dimes, 2017), and the U.S. ranks 28<sup>th</sup> out of 34 developed countries in rates of low birth weight (OECD, 2016). Moreover, the high rates of adverse pregnancy outcomes in the U.S. have changed little over time, despite national public health and policy efforts aimed at improving these outcomes by increasing access to prenatal care. Adverse birth outcomes incur high medical costs in the first year of life and put both infants and mothers at increased risk of long-term health problems. Thus, lowering rates of and disparities in these outcomes is a national public health priority (ODPHP, 2017).

In the late 1980s and early 1990s, the federal government expanded Medicaid—the public health insurance program for low-income families—to cover low-income pregnant women and improve access to prenatal care (Bitler and Zavodny, 2014), yet these efforts did not significantly reduce rates of adverse pregnancy outcomes such as low birth weight or preterm delivery (Dave et al., 2008; Howell, 2001).

Increasingly, it is recognized that health care only during the prenatal period is inadequate to address health risks and behaviors such as smoking, alcohol use, obesity, and chronic disease that adversely affect fetal development, but originate prior to pregnancy and cannot be remediated fully during pregnancy. Moreover, treatments for these risks during pregnancy—for example, via pharmacotherapy or nicotine replacement for smoking cessation, anti-hypertensive medication for high blood pressure, and behavioral interventions for weight loss—can create new risks to fetal development. Thus, pre- and

inter-conception preventive care have been heralded by the Centers for Disease Control and Prevention (CDC) (Johnson et al., 2006), the American College of Obstetrics and Gynecology (2005) and the March of Dimes (2002) as promising methods of identifying, managing, and treating risk factors prior to pregnancy.

Many women in the U.S. lack health insurance and are thus limited in their ability to access preventive health care prior to pregnancy. As of 2013, about 19 percent of women aged 15-44 lacked any health insurance (Guttmacher Institute, 2016). Using data from the Behavioral Risk Factor Surveillance System (BRFSS), we found that an even higher proportion—37.5%—of low-income women of reproductive age (18-44 years) lacked health insurance in 2011-2012. Compared to women with any type of health insurance, uninsured women were more likely to avoid seeking care due to cost (62.1% vs. 23.8%), less likely to have used preventive health care such as a check-up in the past year (40.4% vs. 70.3%), and less likely to be using medications to manage chronic diseases.

The expansion of Medicaid under the Affordable Care Act (ACA), stated that all non-elderly Americans with incomes up to 138% of the federal poverty level (FPL) should become eligible for Medicaid starting in 2014. However, a 2012 U.S. Supreme Court ruling allowed states to opt out of the Medicaid expansion; thus, by January 2014, only 20 states had expanded Medicaid under the ACA. This state-level variation in the expansion of Medicaid has resulted in a natural experiment offering a unique opportunity to examine the effects of gaining health insurance coverage on low-income women's preconception health.

Substantial evidence demonstrates that the ACA Medicaid expansion has increased health insurance coverage and access to care (Johnston et al., 2018; Mazurenko et al., 2018; Simon et al., 2017; Wehby and Lyu, 2018; Wherry and Miller, 2016) among low-income adults, especially those without children. No prior work, however, has examined whether these gains in coverage have translated to improved health among women of reproductive age in domains known to be associated with pregnancy health, such as preventive care, chronic disease, self-reported health, and health behaviors. To that end, the objective of our research project was to utilize data from the BRFSS (2011-2016) to test the hypothesis that increasing health care coverage for low-income women under the 2014 ACA Medicaid expansion improved pre-conceptive health care access, utilization of preventive care, chronic disease management, overall health, and health behaviors.

## In Michigan

In Michigan, 1 out of 12 babies is born underweight, and almost 1 in 10 is born preterm. These statistics may not be surprising in light of the fact that, prior to the Medicaid expansion (i.e., in 2012), 18% of adult women (ages 18-64) in Michigan lacked health insurance. Promisingly, BRFSS data in Michigan demonstrate that the ACA Medicaid expansion led to improvements on many indicators of health behaviors and health care access among women in this state (MDHHS, 2016). Specifically, the percentage of adult women with no health care coverage decreased by 4.5 percentage points from 2012 to

2015. Furthermore, the percentage of women who did not have access to health care due to cost within the past year decreased by 2.3 percentage points.

In addition to indicators of health care access, the BRFSS data in Michigan also demonstrate improvements for women on many indicators of personal health behaviors. For example, the percentage of women who identified as current smokers decreased from 22.8% in 2012 to 19.1% in 2015. The percentage of women who indicated that they engaged in heavy drinking and binge drinking also decreased from the pre-expansion to the post-expansion period from 2012 to 2015. Furthermore, the percentage of women who indicated they had no routine check-up in the past year decreased from 28.3% in 2012 to 23.5% in 2015, indicating increased access to health care services. Because improved access to health care and increased engagement in healthy behaviors helps women adopt and maintain a healthy lifestyle prior to conception, these data have critical implications for the improved health of women during pregnancy as well as improved health for the fetus and infant.

According to the Michigan Department of Health and Human Services (MDHHS), as of August 13, 2018, the total number of beneficiaries on the Healthy Michigan Plan (the Medicaid expansion program initiated in April 2014) totaled to 664,789, with 323,422 women enrolled and 341,367 men enrolled (MDHHS, 2018). With relevant implications to our research, it is important to note that the majority of women beneficiaries (84,028) are of reproductive age, between the ages of 25 and 34. These statistics emphasize that increased enrollment into health plans, and therefore increased access to health care services, for women of this age may have important implications for preconception health care as well as child and maternal health indicators.

Research demonstrates that the expanded Medicaid program is also associated with increased health care access for low-income populations in general. In a study examining 295 clinics across Michigan, the number of clinics who accepted new Medicaid patients for appointments increased from 144 clinics (49%) to 162 clinics (55%) from the pre-expansion to post-expansion period (Tipirneni et al., 2015). The study also found that in high need counties in Michigan with higher numbers of individuals eligible for Medicaid, there was improved probability that clinics accepted new Medicaid patients. In a study by Davis et al. (2016) examining patterns in insurance coverage among nonelderly adults admitted to acute care hospitals (n= 130), it was found that the number of individuals without any insurance who were discharged decreased dramatically from 6.0% in the pre-expansion period (2013) to 2.0% in the post-expansion period (2014), indicating an improvement in access to health care for low-income populations.

In addition to increasing health care enrollment and improving health care access, the ACA Medicaid program in Michigan has conferred economic and cost-saving benefits to the state. According to a study conducted by Ayanian et al. (2017), due to the expanded Medicaid program in Michigan, the annual amount spent on resources pertaining to mental health and correctional health programs in Michigan has decreased by \$235 million. Furthermore, the ACA Medicaid expansion has led to improved job growth in Michigan—adding over 39,000 jobs in 2016—and is projected to continue promoting employment opportunities throughout

2021 (Ayanian et al., 2017). According to Ayanian et al. (2017), the economic activity stimulated by the new state tax revenues brought about by the ACA Medicaid expansion in Michigan is projected to yield about \$145 million - \$153 million per year.

In summary, the diverse range of benefits conferred by the ACA Medicaid expansion in Michigan indicates that the Healthy Michigan Plan has helped to improve health care access and health behaviors for Michigan's most low-income residents who were previously uninsured, particularly young women of reproductive age. Improving the health of low-income women in the preconception and inter-conception periods through the implementation of expanded health services such as the Healthy Michigan Plan is critical to targeting health risks and behaviors such as smoking, alcohol use, obesity, and chronic disease that adversely affect fetal development but originate prior to pregnancy and cannot be remediated fully during pregnancy.

## **MAPPR RESEARCH PROJECT**

Our pilot research project utilized a quasi-experimental, difference-in-differences (DID) study design which compares the change from pre- to post-Medicaid expansion in prevalence of self-reported outcomes between low-income women of reproductive age living in states that expanded Medicaid (expansion states) and similar women in states that did not expand Medicaid (control states). The method thus uses the non-expansion states as a "control" group to estimate the change in outcome from before to after the expansion and contrast that with the observed change over the same time in the expansion states.

### **Sample and Measures**

We obtained data from the Behavioral Risk Factor Surveillance System (BRFSS), a system of telephone interviews administered annually in all 50 states and the District of Columbia to non-institutionalized U.S. residents 18 and older. Sampled adults are identified through random digit dialing (RDD), and each adult is surveyed regarding individual health (preventive care, risk behaviors, chronic conditions, and infectious disease), individual demographics, and current health topics.

We defined expansion states as those that expanded Medicaid by January 1, 2014 (Wehby & Lyu, 2018): Arkansas, Colorado, Illinois, Kentucky, Maryland, New Jersey, Nevada, New Mexico, North Dakota, Ohio, Oregon, Rhode Island, and West Virginia. We did not include Michigan because Michigan expanded Medicaid after January 1, 2014. However, our preliminary analyses show that findings are similar when states expanding after January 1, 2014 are included.

Our primary outcomes included health insurance (yes/no); health care access (avoiding care due to cost); preventive health care (check-up in past year, ever had blood cholesterol checked, had cholesterol checked within previous year, blood sugar test in past three years [among those without a diabetes diagnosis], pap test in past three years [among those who had ever had a pap test]); overall health (self-rated health, poor physical and



mental health [defined as  $\geq 14$  days not in good physical/mental health]); chronic disease (participant told that she has high blood pressure, high cholesterol, prediabetes, or diabetes; currently taking blood pressure medication [among those with high blood pressure]; currently taking insulin [among those with a diabetes diagnosis]); and health behaviors (smoking cessation attempt in past year [among current smokers], overweight/obese body mass index [vs. normal/underweight], and binge and heavy drinking).

More about our data and analytic sample as well as our measures and statistical analysis is readily available upon request.

## RESULTS

The 2014 Medicaid expansion was associated with a statistically 9.0 (95% CI: 2.9, 15.2) percentage point increase in health care coverage for low-income women of reproductive age and a 7.4 (95% CI: -12.2, -2.6) percentage point decrease in women reporting that they avoided care due to cost. The expansion was also associated with a significant 2.4 (95% CI: 0.1, 4.8) percentage point increase in women having had a pap test in the past three years, a significant increase of 7.9 (95% CI: 3.1, 12.8) percentage points in women with high blood pressure taking medication for this condition, and an 11.4 (95% CI: 3.0, 19.7) percentage point increase in women with diabetes taking insulin. Finally, the Medicaid expansion was associated with a 1.0 (95% CI: -1.8, -0.2) percentage point decrease in women reporting heavy drinking.

The association between Medicaid expansion and all outcomes was larger among women with no dependent children compared to those with dependent children, and among married vs. not married women. For example, women with no dependent children experienced a 13.9 percentage point increase in health insurance coverage, a 10.5 percentage point decrease in avoiding care due to cost, and 10.6 percentage point increase in taking blood pressure medication.

## DISCUSSION OF FINDINGS

Our findings are consistent with a large and growing body of work demonstrating that the ACA Medicaid expansion increased health insurance coverage and access to care (Johnston et al., 2018; Mazurenko et al., 2018; Simon et al., 2017; Wehby and Lyu, 2018; Wherry and Miller, 2016) among low-income adults, especially those without children. The only other study to focus specifically on low-income women of reproductive age reported that Medicaid expansion was associated with a decline in being uninsured of 13.2 percentage points and a decline in avoiding care due to cost of 3.8 percentage points (Johnston et al., 2018). Similar to ours, this study also found larger associations among women with no dependent children, for whom the decline in being uninsured was 27 percentage points and the likelihood of not having a personal doctor declined by 13 percentage points. Differences in estimates between our study and this one, which also

used BRFSS, are likely due to differences in the definition of control states and eligibility for Medicaid (<100% FPL vs. <138% FPL in our study).

Fewer previous studies have examined the impact of the ACA Medicaid expansion on preventive health care, overall health, chronic disease management and health behaviors, and none have done so among women of reproductive age specifically. Simon and colleagues reported that, among low-income women up to 64 years of age in the first year following the expansion, health insurance, access to care, and self-rated health increased, but there was no significant impact on preventive health care or health behaviors (Simon et al., 2017). Our results, however, do show improvements in some, but not all, indicators of preventive care, chronic disease management, and health behaviors, suggesting that either 1) positive health impacts of the Medicaid expansion may not have been obvious after only one year, or that 2) women of reproductive age are more likely than older women to utilize preventive care and improve their health behaviors when they gain health insurance. Indeed, the peri-natal period of a woman's life has been described as a window of opportunity during which women are more likely to adopt healthier behaviors and heed medical advice (Bloch and Parascandola, 2014; Johnson et al., 2006; Louis et al., 2008; Phelan, 2010).

Two primary limitations of our study are the relatively short time period after the expansion of Medicaid within which we are able to observe changes in health outcomes and the fact that only a fraction of the population of reproductive age in BRFSS will go on to become pregnant in the near future. As data becomes available, an important next step is to examine the impact of Medicaid expansion on pre-pregnancy health, pregnancy health, and infant outcomes using other data on women who actually did become pregnant post-expansion. At the time of this study, however, data from birth records were only available for 2015, and any hypothesized impacts of the 2014 Medicaid expansion on pregnancy health would likely take more than one year to become manifest. However, a related analysis of the effects of changes in state-level Medicaid eligibility for parents from 1997-2012 showed that prior expansions of Medicaid to women who already had children increased Medicaid coverage *both* prior to pregnancy and for prenatal care and was associated with decreased unintended birth and increased prenatal initiation and adequacy among low-educated women (Wherry, 2017).

Our study is also limited by the questions available in the BRFSS data and by the fact that all data is self-reported. Moreover, the BRFSS has a relatively low response rate (about 50%) compared to other national surveys such as the National Health Interview Survey, but it has a large sample size, and state-identified data is publicly available.

Strengths of the present study include that we are the first study to examine the impacts of the 2014 Medicaid expansion on multiple measures of health care utilization and behaviors among low-income women of reproductive age specifically. Our study is also strengthened by the large sample size, the quasi-experimental DID method, the national BRFSS data, and the multiple outcomes we were able to examine.

## POLICY OPTIONS & STRATEGIES FOR MICHIGAN

The status of the ACA and the expanded Medicaid programs it helped to engender remain unclear. Based on the results of our findings, we recommend policies that ensure the preservation of the Medicaid expansion program in Michigan to be promoted and adopted. It is critical for policy makers in Michigan to focus efforts on sustaining and maintaining the Healthy Michigan Plan. Creating opportunities for policymakers to hold forums and community meetings with stakeholders, including Medicaid beneficiaries, as a platform to continue highlighting the impact that the ACA Medicaid Expansion has had on improving health outcomes and health care access for thousands of Michigan's underserved residents is important. Such forums and community meetings are critical to promote more educational opportunities for policy makers and legislators to directly engage with, and learn from, the citizens whose lives have been most impacted by the ACA Medicaid expansion in Michigan and therefore lend increased evidence for the retention of the Healthy Michigan Plan.

In addition, we recommend that policy makers consider additional provisions to ensure health insurance coverage for women of reproductive age. Our project used the Medicaid expansion nationwide as a natural experiment to test the hypothesis that expanding health insurance coverage to low-income women of reproductive age would improve their health care access and utilization, health behaviors, and health. Our findings support this hypothesis, although health indicators in all domains did not improve. Among married women and those without dependent children—the same demographic groups most likely to go on to become pregnant—these improvements were particularly strong.

## RECOMMENDATIONS FOR IMMEDIATE ACTION

- Continue to develop and distribute the Michigan Department of Health and Human Services monthly Healthy Michigan Plan progress reports as a resource to be shared with policy makers in order to highlight the growing number of beneficiaries of the services received from the Medicaid expansion program.
- Create a state level community advisory group comprising of Medicaid beneficiaries, including women of reproductive age, health care advocates, and physicians, perinatal and social epidemiologists. This group should meet with policy makers, legislators, and coordinators of the State Medicaid program on a regular basis to enhance communication routes about the continued positive impacts of the ACA Medicaid Expansion on the health status and health outcomes of Michigan's low-income residents, particularly women of reproductive age, in adherence to the goals outlined in Healthy People 2020 and Michigan's State Health Improvement Plan.
- Continue collaboration between university research faculty and State Medicaid officials. This collaboration is key to producing relevant research that measures health impacts of the ACA Medicaid Expansion in promoting women's and children's

health. The ultimate aim of the collaboration is to reduce adverse birth outcomes and health disparities among underserved populations.

## CONCLUSION

To test the hypothesis that increasing health care coverage for low-income women of reproductive age would improve pre-conception health, we examined the impact of the 2014 Medicaid expansion under the Affordable Care Act on health care coverage and access, overall health, chronic disease indicators, and health behaviors among low-income, non-pregnant women 18-44 years old in the U.S. Consistent with previous research, we found that the Medicaid expansion increased the percentage of women with any health insurance and decreased the percentage of women who reported avoiding health care due to cost. Our study is the first to show that the expansion increased the proportion of women of reproductive age with high blood pressure or diabetes who reported currently taking high blood pressure medication or insulin, respectively. The expansion was also associated with increased likelihood of having had a pap test in the past three years and with a decrease in heavy drinking, but did not appear to impact other measures of preventive health care, days not in good physical or mental health, smoking cessation attempts, or BMI. The observed increase in health insurance coverage was largest among women with no dependent children and married women.

In summary, our findings indicate that the 2014 Medicaid expansion improved some, but not all, measures of preconception health among a population of women of reproductive age who could go on to become pregnant. Most notably, these women were less likely to avoid doctor visits, more likely to have had a pap test, more likely to be taking medications for chronic disease, and less likely to report heavy drinking compared to women living in states that did not expand Medicaid. Even if only a fraction of these women actually go on to become pregnant in subsequent years, our data suggest that they may enter pregnancy in better health, particularly with respect to management of chronic disease. In light of the increased emphasis on preconception health care as a method of improving health at the outset of pregnancy, and subsequently, reducing the high prevalence of adverse birth outcomes in the US, our study provides important data suggesting that increasing health insurance coverage for low-income women *prior to pregnancy* plays an important role in preconception health.

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Table 1. Multivariate Adjusted<sup>1</sup> Percentage Difference-In-Difference (DID) Estimates (n=58,365)

Outcome	All women	Married	Not married	Dependent children	No dependent children
	DID estimate (95% CI)				
Health insurance					
Has healthcare coverage	9.0 (2.9, 15.2)	11.9 (4.1, 19.7)	7.6 (2.2, 12.9)	7.6 (0.8, 14.4)	13.9 (8.7, 19.2)
Access to health care					
Avoided seeking care due to cost	-7.4 (-12.2, -2.6)	-8.5 (-14.4, -2.6)	-6.8 (-11.5, -2.2)	-6.7 (-11.9, -1.5)	-10.5 (-16.2, -4.8)
Preventive health care					
Check-up in last year	5.1 (1.8, 8.4) <sup>3</sup>	6.2 (1.3, 11.2)	4.5 (1.3, 7.9)	4.6 (1.3, 7.9)	7.2 (2.5, 11.9)
Ever had blood cholesterol checked	2.2 (-0.7, 5.1)	-1.7 (-6.5, 3.1)	4.6 (1.3, 7.9)	0.8 (-3.0, 4.6)	6.8 (3.1, 10.4)
Last cholesterol check within a year	3.6 (-0.1, 7.2) <sup>3</sup>	2.1 (-3.1, 7.4)	4.4 (-0.2, 8.9)	3.4 (-0.1, 6.9)	4.5 (-3.8, 12.9)
Blood sugar test in past three years <sup>2</sup>	0.6 (-1.6, 2.7)	-2.9 (-7.1, 1.3)	1.9 (-1.0, 4.7)	1.1 (-1.5, 3.7)	-0.9 (-4.9, 3.0)
Pap test within last 3 years <sup>2</sup>	2.4 (0.1, 4.8)	2.0 (-2.5, 6.4)	2.7 (0.1, 5.4)	2.0 (-0.9, 4.9)	4.2 (-0.2, 8.5)
Overall health					
Self-rated health good/very good/excellent	2.3 (0.3, 4.3) <sup>3</sup>	2.3 (-0.4, 5.0)	2.3 (-0.2, 4.8)	2.4 (-0.3, 5.0)	1.9 (-1.4, 5.2)
≥14 days not in good physical health/month	-1.0 (-2.6, 0.5)	0.7 (-1.7, 3.0)	-2.0 (-4.2, 0.2)	-1.8 (-3.7, 0.2)	1.7 (-0.1, 3.5)
≥14 days not in good mental health/month	-1.1 (-3.0, 0.7)	-1.3 (-4.2, 1.7)	-1.0 (-3.0, 1.0)	-1.2 (-3.3, 1.0)	-1.4 (-5.0, 2.2)
Chronic disease					
Told high blood pressure	-0.6 (-3.2, 1.9)	-2.1 (-5.8, 1.7)	0.3 (-3.0, 3.5)	-1.3 (-3.9, 1.4)	1.4 (-3.1, 5.9)
Told high cholesterol	-1.6 (-3.6, 0.5)	-1.8 (-6.8, 3.2)	-1.3 (-5.3, 2.7)	-1.1 (-3.7, 1.4)	-3.7 (-8.1, 0.7)
Told diabetes	-0.4 (-1.1, 0.3)	-0.5 (-2.0, 0.9)	-0.3 (-1.1, 0.6)	-0.4 (-1.2, 0.4)	-0.3 (-2.0, 1.3)
Told prediabetes	-0.3 (-2.7, 2.0)	-2.3 (-5.3, 0.7)	0.7 (-2.0, 3.5)	-0.9 (-3.7, 1.8)	1.8 (-1.6, 5.2)
Currently taking blood pressure medication <sup>1</sup>	7.9 (3.1, 12.8)	9.0 (-0.2, 18.2)	8.7 (2.0, 15.3)	6.8 (0.4, 13.2)	10.6 (1.8, 19.3)
Currently takes insulin <sup>1</sup>	11.4 (3.0, 19.7)	22.7 (2.5, 42.9)	5.9 (-7.6, 19.3)	8.9 (0.3, 17.5)	19.0 (-2.4, 40.4)
Health behaviors					
Smoking cessation attempt in last yr <sup>2</sup>	0.3 (-3.3, 3.9)	-1.6 (-6.1, 2.8)	1.2 (-3.5, 5.9)	0.5 (-3.6, 4.5)	-1.6 (-8.3, 5.2)
Overweight/obese vs. normal/underweight	-0.3 (-1.9, 1.4)	2.0 (-1.9, 5.9)	-1.3 (-3.2, 0.7)	-0.2 (-2.1, 1.7)	-0.1 (-3.4, 3.2)
Binge drinking	-0.8 (-2.3, 0.6)	-0.7 (-2.6, 1.2)	-1.0 (-2.8, 0.8)	-0.8 (-2.4, 0.7)	-1.3 (-4.5, 2.0)

<sup>1</sup>Models additionally adjusted for state, year, race, education, marital status, dependent children, age group, employment status, household size, income group, and state average unemployment rate.

<sup>2</sup>This item was asked to only a subset of the sample

<sup>3</sup>Did not meet parallel trends assumption



# INFORMING THE DEBATE



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