The Indirect Impact of Medicaid Expansion on Snap Participation: An Instrumental Variable Approach

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ABSTRACT

The Affordable Care Act's Medicaid expansion significantly increased access to healthcare for millions of previously uninsured individuals. This study examined the effects of Medicaid expansion on participation in the Supplemental Nutrition Assistance Program (SNAP). Using 2009-2023 data from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS), 489,045 observations from low-income households were analyzed. With an instrumental variable (IV) approach, expansion of Medicaid eligibility was used to estimate the effect of Medicaid recipiency on SNAP participation. Medicaid expansion was found to be a suitable IV for Medicaid recipiency. IV analysis revealed that Medicaid recipiency was associated with a 39 percentage-point higher probability of SNAP participation (95% confidence interval: 19 to 59 percentage points, $P < .001$). The strengths of this study, including the use of an IV approach and 15 years of pre- and post-Medicaid expansion data, help confirm and build upon prior studies that found a positive impact of Medicaid expansion on SNAP participation in low-income families. Results of this study reveal an important spillover effect of Medicaid expansion that should be considered in future policy decisions surrounding Medicaid eligibility.

KEYWORDS: SNAP, food stamps, Medicaid expansion, Affordable Care Act, instrumental variable

INTRODUCTION

Medicaid is a key component of the federal social safety net in the United States. The Affordable Care Act expanded Medicaid to nonelderly adults under 138 percent of the federal poverty level. This expansion significantly increased access to healthcare for millions of previously uninsured individuals. States were told to begin enrolling people in the program by 2014. However, a Supreme Court ruling in 2012 declared that the expansion is optional for states. Currently, there are 41 states (including the District of Columbia) that have adopted the Medicaid expansion and 10 states that have not adopted the expansion.

One important but understudied effect of Medicaid expansion is its impact on participation in the Supplemental Nutrition Assistance Program (SNAP). SNAP provides crucial nutritional assistance to low-income families and individuals through electronic benefit transfer cards, formerly known as food stamps. It is thought that enrollment in the expanded Medicaid would help increase participation in SNAP because Medicaid expansion could help reduce barriers to SNAP enrollment and both programs target similar low-income populations. Medicaid and SNAP both play pivotal roles in alleviating poverty and addressing health disparities. In this study, I examined the research question of how the Affordable Care Act's Medicaid expansion has impacted SNAP participation in low-income families by using a large national database and employing instrumental variable (IV) methodology to address the challenges of uncovering the

causal relationship between these interconnected programs. My findings reveal how changes in federal and state policies that affect Medicaid coverage could indirectly impact SNAP participation. Understanding how Medicaid expansion impacts SNAP participation is crucial not only for program administration but also for broader efforts to combat poverty and health disparities.

LITERATURE REVIEW

Only a few studies have examined the impact of the Affordable Care Act's Medicaid expansion on SNAP participation, especially from a national perspective. Lanese et al. (2018), Burney et al. (2021), and Cha and Escarce (2022) all used nationally representative household-level data to investigate the impact of Medicaid expansion on SNAP participation. Using publicly-available data from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS), the interconnection of Medicaid coverage and SNAP participation was investigated by Lanese et al. (2018) for the years 2011 to 2016 and by Cha and Escarce (2022) for the years 2011 to 2020. Burney et al. (2021) conducted their analysis using quarterly household-level data for 2010 to 2018 from the Consumer Expenditure Survey – Interview Survey. All three of these studies found support for the hypothesis that Medicaid expansion leads to greater SNAP participation in low-income families.

All three of these prior studies used a difference-in-difference (DID) methodological approach to compare the changes in SNAP participation before and after Medicaid expansion across states to estimate the effect of Medicaid eligibility on SNAP participation. A limitation of the DID approach is that it relies on the assumption of parallel trends, meaning that in the absence of treatment, the outcomes of the

treatment and control groups would have followed similar trajectories over time. If this assumption is violated, the DID estimator may produce biased results. Burney et al. (2021) point out that one of the limitations of their study is that not all their specifications showed parallel trends, meaning that some of their DID estimators are biased. Another limitation of the prior studies is that there may be unobserved ways in which those who are and are not eligible for Medicaid differ that may be related to SNAP participation, potentially biasing the estimated relationship between these programs.

Use of IVs may be preferable when the parallel trends assumption of DID cannot be convincingly met or when there are concerns about unmeasured confounding variables. IVs exploit natural experiments or other sources of exogenous variation to identify causal effects. Medicaid expansion is an example of a natural experiment that can be used as an IV to determine what effect Medicaid recipiency has on SNAP participation. Medicaid expansion may serve as a good IV because it has a causal effect on Medicaid recipiency, is not likely to be correlated with other factors influencing SNAP participation and affects SNAP participation only through its impact on Medicaid recipiency.

The three prior studies described above tried to estimate a reduced form by estimating the effect of Medicaid expansion directly on SNAP participation. However, this relationship can be more fully understood by estimating how SNAP participation is impacted by Medicaid expansion as an IV through its impact on Medicaid recipiency. By isolating variation in Medicaid recipiency that is independent of confounding factors, Medicaid expansion as an IV can provide unbiased estimates of causal effects even when Medicaid recipiency is not randomly assigned.

My study complements and extends the work of prior studies. Like the prior studies outlined, I used a large national sample of data from low-income families. My study extends the work of prior studies by analyzing a total of 15 years of pre- and post-Medicaid expansion data, which is the most recent and greatest number of years used to evaluate the effect of Medicaid expansion on SNAP participation. To address the potential bias in prior studies from unmeasured factors and the possibility of non-parallel trends, I used Medicaid expansion (within-state changes in Medicaid eligibility) as an IV for Medicaid recipiency to assess the impact of Medicaid recipiency on SNAP participation. My findings reveal how changes in federal and state policies that affect Medicaid coverage indirectly affect SNAP participation in low-income families.

DATA

I analyzed public data from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) available through the Integrated Public Use Microdata Series (IPUMS). The CPS-ASEC is a national survey conducted by the US Census Bureau. The data is well-suited to address my research question because the ASEC contains data on a large, nationally representative sample of households and includes sociodemographic variables along with participation in social welfare programs such as SNAP and Medicaid. This is a pooled dataset. The unit of observation is the individual for all variables except for SNAP participation, which uses the household as the unit of observation.

I analyzed ASEC data collected in 2009-2023. The ASEC questions about SNAP participation and Medicaid recipiency reference the previous calendar year so data from 2009-2023 result in an analysis period from 2008 to 2022 in regard to SNAP

participation and Medicaid recipiency. The original sample had 2,777,271 observations. To limit the sample to low-income families, I excluded observations where the respondent reported a total family income greater than or equal to $28,000, which is around 138 percent of the average federal poverty level (FPL) for the average family size of three persons during 2009-2023. Using the cut-off of less than 138 percent of the FPL to restrict the sample to low-income families is consistent with the eligibility criterion for Medicaid expansion. Observations missing data for study variables were also excluded. These exclusions resulted in a final study cohort of 489,045 observations.

Medicaid expansion primarily targets low-income adults regardless of parental or disability status, but some studies estimating the effects of Medicaid expansion on SNAP participation included able-bodied adults without dependents (ABAWDs) as a separate category in their analyses because ABAWDs have limited access to SNAP (Burney et al., 2021; Cha & Escarce, 2022). However, ABAWDs was not included as a separate variable in this study because their SNAP eligibility is affected by independent state-level work requirements and time limits, which could introduce confounding effects that obscure the broader relationship between Medicaid expansion and SNAP participation. Focusing on the full low-income adult population enables a more generalizable and policy-relevant understanding of how Medicaid expansion impacts SNAP participation.

In analyzing the effects of Medicaid recipiency on SNAP participation, it is important to control for other factors closely tied to safety net program eligibility and participation. Demographic characteristics such as sex, age, race, and ethnicity influence access to health care and food assistance, while socioeconomic indicators like

education and income affect economic vulnerability and program take-up. Including factors such as race, ethnicity, and education level also helps account for systematic differences in program access due to language barriers, information gaps, discrimination, and other unobserved factors that this study cannot measure directly. Additionally, household structure variables, including family size and number of children, directly impact SNAP eligibility thresholds and Medicaid coverage. Therefore, sex, age, marital status, race, ethnicity, years of schooling, family size, number of children, and family income were included as covariates to ensure that any observed effects of Medicaid recipiency on SNAP participation are not confounded by underlying differences in individual or household characteristics, thereby enhancing the validity of the findings.

Definitions of all study variables are described in Table 1. Dummy zero-one variables were created for the categorical variables of SNAP participation, Medicaid recipient, and sex. Categories of marital status, race, and Hispanic ethnicity were grouped into larger categories and converted to a small number of zero-one dummy variables. Categories of educational attainment were converted to a number representing years of schooling. Total family income was reported in thousands of dollars. A dummy variable for Medicaid expansion was generated. The value for this variable is 0 in all years for the 10 states that currently have not expanded Medicaid and is 1 for the year of observation during which each state (41 states including the District of Columbia) expanded Medicaid by June 30 and each year thereafter. If a state expanded Medicaid after June 30 in the year of observation, the Medicaid expansion variable value for that year of observation would be 0 but would be 1 for all subsequent

years. June 30 was used as a cut-off date to reflect when a state had more than half a year of Medicaid expansion. See Table A1.

The descriptive statistics are included in Table 2. The mean values and ranges are sensible. Use of zero-one dummy variables allows the means to be interpreted as the percentage of observations with a value of 1. The average age of respondents was 46.4 years. The majority of respondents were female (58.5%), white (71.1%), non-hispanic (77.0%) and never married (41.8%). On average, respondents had 12 years of schooling. There was an average of 2.51 persons in the family and an average of 0.6 children per household. The average total family annual income was $14,376. The same number of respondents reported being Medicaid recipients (30.2%) and participating in SNAP (30.2%) with 36.3% of respondents residing in a state with Medicaid expansion at least most of the year of observation.

METHODOLOGY

The effect of Medicaid recipiency on SNAP participation could be estimated with the following equation:

$$\text{SNAP participation} = \beta_1 + \beta_2 \text{ Medicaid recipiency} + \beta_3 \text{ Covariates} + \text{error}$$

However, to reduce the risk of selection bias and omitted variable bias, I examined the causal relationship between Medicaid recipiency and SNAP participation using an IV analysis, where within-state changes in Medicaid expansion was used as an instrument for Medicaid recipiency.

A good instrument meets the three requirements of: 1) having a causal effect on the independent variable, 2) being unrelated to any omitted variables, and 3) affecting the dependent variable only through the independent variable. An IV analysis using a

two-stage least squares process addresses how Medicaid expansion meets these three criteria. Specifically, this analysis looks at the causal effect of Medicaid expansion on Medicaid recipiency, accounts for how Medicaid expansion is not closely correlated with other unobserved determinants of SNAP participation, and models how Medicaid expansion affects SNAP participation only through its impact on Medicaid recipiency.

The two-stage least squares process involved first- and second-stage equations.

First-stage equation:

$$\text{Medicaid recipiency} = \phi_1 + \phi_2 \text{ Medicaid expansion} + \phi_3 \text{ covariates} + \text{error}$$

This first-stage linear regression model predicted Medicaid recipiency as a function of Medicaid expansion and all covariates. Covariates include sex, age, married, separated/divorced/widow, white race, black race, Hispanic ethnicity, years of schooling, family size, number of children in household, and family income. Never married and other race were omitted and used as reference categories. To account for the pooled nature of data from many years and the fact that Medicaid eligibility occurs at the state level, the fixed effects of both year and state were also included as covariates. An *F* test of the Medicaid expansion variable from this first-stage model was used to determine if Medicaid expansion was a suitable instrument for Medicaid recipiency. The fitted values for Medicaid recipiency from this first-stage equation were saved as $\widehat{X}$, where X represents Medicaid recipiency.

Second-stage equation:

$$\text{SNAP participation} = \beta_1 + \beta_2 \widehat{X} + \beta_3 \text{ covariates} + \text{error}$$

In the second-stage equation, the Medicaid recipiency values predicted by Medicaid expansion ($\widehat{X}$) from the first stage were used to estimate the association between SNAP participation and Medicaid recipiency.

RESULTS

The *F* statistic in the first-stage regression was statistically significant and large ($F = 19956.05$, $P < .001$), revealing the strength of Medicaid expansion as a suitable instrument for Medicaid recipiency. The rule of thumb is that an *F* statistic of at least 10 indicates a causal effect.

Table 3 shows the coefficient estimates of effects on SNAP participation. All demographic variables in the second-stage regression had a statistically significant independent relationship with SNAP participation except for sex, white race, and Hispanic ethnicity.

The coefficient estimate for Medicaid recipiency is of primary interest and was 0.390. The positive sign of the coefficient shows that Medicaid recipiency has a positive impact on SNAP participation and means that Medicaid recipiency was associated with a 39 percentage-point (95% CI: 19 to 59 percentage points) increase in the probability of SNAP participation. This is statistically significant with $P < 0.001$. This represents a substantial shift, indicating that access to Medicaid meaningfully reduces barriers to SNAP enrollment. In comparison to effect sizes previously reported in the literature, the larger effect found here may partly reflect the causal isolation provided by IV analysis, in contrast to the attenuated estimates from DID models subject to greater confounding.

DISCUSSION

The results from my analysis, leveraging 15 years of data and IV methodology, demonstrate that Medicaid expansion serves as a robust instrument for Medicaid recipiency, which was associated with a significantly increased likelihood of SNAP participation among low-income families. These results provide evidence of an independent relationship between Medicaid recipiency and SNAP participation in low-income families. These findings underscore the broader impact of Medicaid expansion, suggesting that the policy not only directly enhances healthcare access but also fosters greater engagement with other vital social safety net programs, such as SNAP. By isolating the causal relationship between Medicaid recipiency and SNAP participation, this study highlights the positive spillover effects of Medicaid expansion.

While this finding is consistent with prior studies that found a positive impact of Medicaid expansion on SNAP participation, my findings diverge from earlier estimates in important ways. Specifically, my study reveals a larger effect – 39 percentage points – on the likelihood of SNAP participation, compared to the 2.9 – 3.2 percentage point increases reported by Burney et al. (2021) and Cha and Escarce (2022). This difference may stem from methodological improvements in my approach. Unlike the DID method employed in previous studies, I used Medicaid expansion as an IV, isolating the causal effect of Medicaid recipiency on SNAP participation. This IV method mitigates potential biases related to unobserved confounders and non-parallel trends, providing a more precise estimate of the impact. Furthermore, my study benefits from a more extensive dataset spanning 15 years, allowing for a richer analysis of the long-term effects of Medicaid expansion on participation in both Medicaid and SNAP.

While strengths of my study include the use of an IV approach and a broad span of 15 years of data, there is further work to be done to understand the relationship between these social safety net programs. An IV approach could be used to explore how Medicaid expansion may indirectly affect SNAP participation differently for subgroups of the low-income population. For example, it may be important to consider these causal relationships within multiple different low-income levels, for households with and without children, and for vulnerable groups of low-income adults, such as able-bodied adults without dependents (Burney et al., 2021; Cha & Escarce, 2022). Further work is also needed to understand the mechanisms that help drive the relationship between Medicaid eligibility and SNAP participation. For example, an IV approach could be used to build on the work of Lanese et al. (2018) that examined the joint impact of Medicaid expansion and Medicaid enrollment outreach programs on SNAP participation.

CONCLUSION

This paper provides new evidence that Medicaid expansion has significant spillover effects on participation in other safety net programs. Using 15 years of nationally representative, individual-level data and an IV strategy, I found that Medicaid enrollment increases SNAP participation by 39 percentage points – an effect size considerably larger than previously reported in the literature.

This research is especially timely amidst ongoing political debates about the future of the Affordable Care Act's Medicaid expansions. By isolating exogenous variation in Medicaid eligibility, this study offers strong causal evidence that extending health insurance access meaningfully facilitates access to food assistance. These

findings suggest that public programs should not be viewed in isolation: expanding one component of the safety net can have multiplicative effects on overall program participation and, by extension, on individuals' financial and nutritional well-being.

These results have important policy implications. Policymakers should carefully consider the secondary benefits of maintaining or expanding Medicaid eligibility. Restricting access to Medicaid could not only increase the uninsured rate but also reduce participation in food assistance programs, exacerbating food insecurity and poverty. Integrated approaches that recognize the interconnectedness of public assistance programs may yield more effective and efficient outcomes. Overall, this study contributes to a growing body of research demonstrating that health policy reforms can have far-reaching impacts across domains of social welfare.

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TABLE 1: VARIABLE DEFINITIONS

Variable	Definition	Formula
SNAP participation	One or more members of the household received benefits from the Supplement Nutrition Assistance Program (SNAP) during the prior year	0=no, 1=yes
Medicaid expansion	State where respondent lives has implemented Medicaid expansion by June 30 in year of observation	0=no, 1=yes
Medicaid recipient	Indicates whether the respondent was covered by Medicaid during the previous calendar year	0=no, 1=yes
Sex	Respondent's sex	0=female, 1=male
Age	Respondent's age at last birthday	
Married	Respondent's current marital status is married	0=no, 1=yes
Separated/divorced/widow	Respondent's current marital status is separated, divorced, or widowed	0=no, 1=yes
Never married	Respondent's current marital status is never married/single	0=no, 1=yes
White	Respondent's race is White	0=no, 1=yes
Black	Respondent's race is Black	0=no, 1=yes
Other race	Respondent's race is something other than White or Black	0=no, 1=yes
Hispanic ethnicity	Respondent identifies as Hispanic, Spanish, or Latino	0=no, 1=yes
Years of schooling	Respondents' years of schooling, as measured by the highest year of school or degree completed	0=None or preschool, 4=Grades 1,2,3, or 4, 6=Grades 5 or 6, 8=Grades 7 or 8, 9=Grade 9, 10=Grade 10, 11=Grade 11, 12=12th grade or high school diploma or equivalent, 13=Some college but no degree, 14=Associate's degree, 16=Bachelor's degree, 18=Master's degree, 19=Professional school degree, 20=Doctorate degree

Variable	Definition	Formula
Family size	The number of own family members residing with each individual, including the person her/himself	
Number of children in household	Number of own children (of any age or marital status) residing with each individual	
Family income	Total income for the respondent's family reported in thousands	

SOURCE: Current Population Survey Annual Social and Economic Supplement, March 2024.

TABLE 2: DESCRIPTIVE STATISTICS

	Number of observations	Mean	Standard deviation	Minimum	Maximum
SNAP participation	489,045	0.302	0.459	0	1
Medicaid expansion	489,045	0.363	0.481	0	1
Medicaid recipient	489,045	0.302	0.459	0	1
Male Sex	489,045	0.415	0.493	0	1
Age	489,045	46.40	20.78	15	85
Married	489,045	0.266	0.442	0	1
Separated/divorced/widow	489,045	0.317	0.465	0	1
Never married	489,045	0.418	0.493	0	1
White race	489,045	0.711	0.453	0	1
Black race	489,045	0.188	0.391	0	1
Other race	489,045	0.101	0.301	0	1
Hispanic ethnicity	489,045	0.230	0.421	0	1
Years of schooling	489,045	12.00	2.78	0	20
Family size	489,045	2.51	1.70	1	16
Number of children in household	489,045	0.595	1.06	0	9
Family income (in thousands)	489,045	14.376	8.51	-31.941	27.999

SOURCE: Current Population Survey Annual Social and Economic Supplement, 2009-2023. Accessed at ipums.org, March 2024.

TABLE 3: ESTIMATES OF EFFECTS ON SNAP PARTICIPATION

	Coefficient	Robust Standard Error
Medicaid recipient	.390**	(.103)
Sex	-.005	(.005)
Age	-.001*	(.0003)
Married	-.049**	(.004)
Separated/divorced/ widow	.023**	(.004)
Never married	Reference	
White race	-.007	(.010)
Black race	.087**	(.010)
Other race	Reference	
Hispanic ethnicity	.017	(.010)
Years of schooling	-.010**	(.003)
Family size	.022**	(.004)
Number of children in household	.056**	(.002)
Family income	-.003**	(.0006)
Constant	.259	(.065)

NOTES: * $p < 0.05$, ** $p < 0.001$. Dependent variable is SNAP participation. Control variables also included year and state fixed effects that are not shown in the table. Standard errors in parentheses are robust to heteroskedasticity and clustered by state.

DATA APPENDIX

Data used in this study was extracted on March 29, 2024 from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) available through the Integrated Public Use Microdata Series (IPUMS) (Flood et al., 2023). The variables from ASEC listed in the first column of Table A2 were extracted for the years 2009 through 2023. The original sample included 2,777,271 observations.

To limit the sample to low-income families, I determined a cut-off point for defining low-income consistent with the eligibility criterion for Medicaid expansion of income <138 percent of the federal poverty level (FPL). The annual FPL is based on the number of persons in the family. During 2009-2023 (years of data analyzed in this study), the average number of persons in a US family remained the same at an average of three persons per family. Using an historical FPL table ("Prior HHS Poverty Guidelines," n.d.) accessed on April 19, 2024, I determined the average FPL for a three-person family from 2009-2023 to be $20,527. This amount multiplied by 138% is $28,327.26. I rounded this number to the nearest $1,000 to restrict my sample to those with a family income < $28,000.

From the original 2,777,271 observations, the observations with a total family income greater than or equal to $28,000 (N = 2,136,520 observations) were excluded from the sample, resulting in a sample of 640,751 observations. Then observations missing data for study variables were excluded. Observations were excluded for missing data for Medicaid recipiency (N = 296) and then for educational attainment (N = 151,410), resulting in a final cohort of 489,045 observations.

Table A1 shows the status and date of Medicaid expansion for each state and the District of Columbia ("Status of State Medicaid Expansion," 2024; accessed on April 10, 2024). As described in the data section of this paper, a dummy variable for Medicaid expansion was generated. The value for this variable is 0 in all years for the 10 states that currently have not expanded Medicaid and is 1 for the year of observation during which each state (41 states including the District of Columbia) expanded Medicaid by June 30 and each year thereafter. If a state expanded Medicaid after June 30 in the year of observation, the Medicaid expansion variable value for that year of observation would be 0 but would be 1 for all subsequent years. June 30 was used as a cut-off date to reflect when a state had more than half a year of Medicaid expansion.

Table A2 provides a crosswalk of variable names and shows what CPS variables were used in Stata to derive variables and how they are referenced in this paper. As described in the data section of this paper and in Table 1, dummy zero-one variables were created for the categorical variables of SNAP participation, Medicaid recipient, and sex. Categories of marital status, race, and Hispanic ethnicity were grouped into larger categories and converted to a small number of zero-one dummy variables. Categories of educational attainment were converted to a number representing years of schooling. Family income was divided by $1,000 to express income in thousands so that its coefficient and standard error would be easier to interpret.

Stata BE 18.0 was used for statistical analysis. The following Stata commands and codes were used to conduct the IV regression analysis:

```
ivregress 2sls snap sex age married sep_div_wid white black hispanic schooling famsize nchild income i.year i.statefip (medicaid=expand), first vce(cluster statefip)
```

Data and Stata code used to compute the estimates are available from the author on request.

TABLE A1: STATUS OF MEDICAID EXPANSION BY STATE

State	Medicaid Expansion Adopted	Date when state implemented Expansion	State	Medicaid Expansion Adopted	Date when state implemented Expansion
Alabama	No	N/A	Montana	Yes	1/1/2016
Alaska	Yes	9/1/2015	Nebraska	Yes	10/1/2020
Arizona	Yes	1/1/2014	Nevada	Yes	1/1/2014
Arkansas	Yes	1/1/2014	New Hampshire	Yes	8/15/2014
California	Yes	1/1/2014	New Jersey	Yes	1/1/2014
Colorado	Yes	1/1/2014	New Mexico	Yes	1/1/2014
Connecticut	Yes	1/1/2014	New York	Yes	1/1/2014
Delaware	Yes	1/1/2014	North Carolina	Yes	12/1/2023
District of Columbia	Yes	1/1/2014	North Dakota	Yes	1/1/2014
Florida	No	N/A	Ohio	Yes	1/1/2014
Georgia	No	N/A	Oklahoma	Yes	7/1/2021
Hawaii	Yes	1/1/2014	Oregon	Yes	1/1/2014
Idaho	Yes	1/1/2020	Pennsylvania	Yes	1/1/2015
Illinois	Yes	1/1/2014	Rhode Island	Yes	1/1/2014
Indiana	Yes	2/1/2015	South Carolina	No	N/A
Iowa	Yes	1/1/2014	South Dakota	Yes	7/1/2023
Kansas	No	N/A	Tennessee	No	N/A
Kentucky	Yes	1/1/2014	Texas	No	N/A
Louisiana	Yes	7/1/2016	Utah	Yes	1/1/2020
Maine	Yes	1/10/2019	Vermont	Yes	1/1/2014
Maryland	Yes	1/1/2014	Virginia	Yes	1/1/2019
Massachusetts	Yes	1/1/2014	Washington	Yes	1/1/2014
Michigan	Yes	4/1/2014	West Virgina	Yes	1/1/2014
Minnesota	Yes	1/1/2014	Wisconsin	No	N/A
Mississippi	No	N/A	Wyoming	No	N/A
Missouri	Yes	7/1/2021			

SOURCE: *Status of State Medicaid Expansion Decisions: Interactive Map*. KFF. (2024, April 8).

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NOTES: States' decisions about adopting the Medicaid expansion are as of December 1, 2023. Yes = 41 states (including DC); No = 10 states.

TABLE A2: CROSSWALK OF VARIABLE NAMES

CPS code name (label)	Stata Variables	Variable References in Paper
FOODSTMP (Food stamp recipiency)	foodstmp	
	snap	SNAP participation
(not in CPS)	expand	Medicaid expansion
HIMCAIDLY (Covered by Medicaid last year)	himcaidly	
	medicaid	Medicaid recipient
SEX (Sex)	sex	Sex (male / female)
AGE (Age)	age	Age
MARST (Marital status)	marst	Marital status
	married	Married
	sep_div_wid	Separated/divorced/widow
	nevermarried	Never married
RACE (Race)	race	Race
	white	White race
	black	Black race
	otherrace	Other race
HISPAN (Hispanic origin)	hispan	
	hispanic	Hispanic ethnicity
EDUC (Educational attainment recode)	educ	
	schooling	Years of schooling
FAMSIZE (Number of own family members in household)	famsize	Family size
NCHILD (Number of own children in household)	nchild	Number of children in household
FTOTVAL (Total family income)	income	Family income
YEAR (Survey year)	year	Year of observation
STATEFIP (State FIPS code)	statefip	Respondent's state of residence

NOTES: Indented names in the column for Stata variables reflect dummy variables that were generated in Stata. Categories of educational attainment were converted to a

number representing years of schooling. Family income was reported in thousands of dollars.