Examining the Effects of Medicaid Expansion on Crime Rates

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Master’s Thesis

May 2022

***Abstract***

There has been a growing literature on associations between health policy and public safety, but few studies have analyzed the potential effects of state Medicaid expansions on crime. This study seeks to address this gap in the literature by examining the effects of state Medicaid expansions following the Affordable Care Act (ACA) of 2010 on annual crime rates. I found that the Medicaid expansions that were implemented following the ACA led to a 24.9% increase in Medicaid enrollment in the states that expanded Medicaid. For my analyses, I employ difference-in-differences and event study methodologies to compare crime rates before and after ACA Medicaid expansions were implemented in 31 U.S. states. While I do not find significant effects of these Medicaid expansions on crime rates, I remain optimistic about potential crime-reduction effects of health policies, specifically policies centered around expanding access to healthcare. This is a promising area for policy-minded research, and I encourage future researchers to continue this work.

**1 Introduction**

Medicaid is a joint federal and state health insurance program that is administered by the states according to federal guidelines (Medicaid and CHIP Payment and Access Commission [MACPAC]). Medicaid and the Children’s Health Insurance Program (CHIP), which is a Medicaid subprogram, work to provide health coverage to approximately 80 million people (“Medicaid”). Medicaid is funded by both the federal and state governments, and it is “the single largest source of health coverage in the United States” (MACPAC; “Eligibility”). It provides coverage to certain groups of people, including children, pregnant women, parents, seniors, and people with disabilities (“Medicaid”). It specifically caters to low-income populations, as one federal requirement for Medicaid is that states must provide coverage to low-income families, qualified pregnant women and children, and individuals receiving Supplemental Security Income (“Eligibility”). Beyond these mandatory eligibility requirements, states have additional coverage options and may cover other groups of people (“Eligibility”). While Medicaid covered millions of people, the eligibility requirements have historically been strict, and many people who could not afford private insurance were not eligible for Medicaid coverage. For example, low-income, childless adults were often not eligible for Medicaid, but they could also not afford private health insurance.

The Patient Protection and Affordable Care Act (ACA), passed in 2010, made many changes to Medicaid, with one of its main goals being to expand Medicaid coverage to more people in the country (Norris, 2022). One important change is that the ACA streamlined eligibility, enrollment, and renewal processes, making it easier for people to apply, enroll, and remain enrolled in the appropriate Medicaid programs (“Eligibility”). The ACA also created the opportunity for each state to expand Medicaid coverage to almost all low-income Americans under the age of 65 (“Eligibility”). Per federal requirements, eligibility for CHIP was extended to 133% of the Federal Poverty Line (FPL) in every state, although most states provide coverage for children with higher family income levels (“Eligibility”). With the initial passage of the ACA, states were also required to expand eligibility to adults with income at or below 133% of the FPL (MACPAC). However, the 2012 Supreme Court decision in *National Federation of Independent Business v. Sebelius* made Medicaid expansion for adults optional in all states; if a state chooses not to expand, it will not lose its federal funding for Medicaid. While expansion to adults allows states to cover adults with household incomes at or below 133% of the FPL, there is also a 5% income disregard, so the income threshold is actually higher, at 138% of the FPL (Norris, 2022).

The first states to expand Medicaid began implementing their expansions in 2014, four years after the passage of the ACA (Norris, 2022). Since 2014, 38 states have expanded their Medicaid programs (Norris, 2022). Before comparing changes in state crime rates, I conducted a difference-in-differences analysis on Medicaid enrollment numbers and found that ACA Medicaid expansions led to a 24.9% increase in Medicaid enrollment for expansion states. Figure 1 shows the trends in Medicaid enrollment for the 38 states that have expanded Medicaid and the 12 states that have not expanded.

Figure 1: Trends in Medicaid Enrollment, Expansion vs. Non-Expansion States

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While Medicaid expansion has clear implications for the health of the United States, it could also have implications for crime. There are three main mechanisms by which Medicaid expansion could impact crime rates. First, expanding access to mental and behavioral health services by expanding Medicaid coverage may produce crime reduction effects. Medicaid health insurance covers several types of health services, including mental and behavioral health services (“Benefits”). If more people are covered by Medicaid, more people are able to receive mental and behavioral health services with their Medicaid benefits. There has been much research on the effects of mental health treatment and substance abuse treatment on crime. Research has shown that substance abuse treatment has been effective in reducing criminal involvement and recidivism, and research on mental health treatments and crime suggests small to moderate crime reduction effects (He & Barkowski, 2020).

Another mechanism through which Medicaid expansion could affect crime relates to income. Having health insurance coverage provides some financial security for those enrolled, as they will likely be paying less money for health services and treatments. People enrolled in Medicaid or other health insurance programs have less exposure to medical bills and medical debt, which can be very costly and can often restrict financial security (He & Barkowski, 2020). If people have an increased sense of financial security, they may have less of a need to resort to crime to make ends meet.

A third and final reason to expect effects of expanding Medicaid on crime is that it may increase the opportunity cost of crime. Providing health insurance to more people may improve the quality of life for more people, thereby making the idea of going to prison seem worse. If people’s lives are improved with increased access to health care via Medicaid, they may be less likely to commit crimes and risk being incarcerated (He & Barkowski, 2020).

The remainder of this paper will be organized as follows: discussion of prior literature in Section 2; description of the data used in Section 3; methodology in Section 4; results in Section 5; and discussion of results, limitations, and suggestions for future research in Section 6.

**2 Prior Literature**

There has not been much research on the effects of Medicaid expansion on crime. However, there are a few notable studies on the topic, and research findings suggest that Medicaid expansions have a crime reduction effect.

Wen et al. examined the effects of Medicaid expansions on crime, specifically through the mental and behavioral health channel (2017). For their analysis, they did not analyze the effects of ACA Medicaid expansions, but they examined the effects of Medicaid expansions through the Health Insurance Flexibility and Accountability (HIFA) waivers (Wen et al., 2017). The HIFA initiative was introduced in 2001 and had goals of reducing the number of uninsured individuals in America (Wen et al., 2017). This initiative streamlined the waiver approval process and provided states with additional funding to reshape and improve their Medicaid programs (Wen et al., 2017). In this study, researchers used annual county-level data from the years 2001-2008 (Wen et al., 2017). Using a two-way fixed effects model, Wen et al. found that HIFA-waiver Medicaid expansion led to significant decreases in rates of robbery, aggravated assault, and larceny (2017). They also found that much of this reduction was likely due to increases in the rate of substance use treatment and decreases in substance use prevalence following these Medicaid expansions (Wen et al., 2017).

Jacob Vogler conducted a study in which he examined ACA Medicaid expansions and their effects on crime rates. He utilized state-level crime data from the Federal Bureau of Investigation’s Uniform Crime Report, and focused on the years 2009-2018 (Vogler, 2020). Using difference-in-differences methodology, he found that states that expanded Medicaid experienced a 5.3% reduction in annual violent crime rates relative to states that did not expand Medicaid (Vogler, 2020). Similar to the findings of Wen et al., Vogler found that this crime reduction was largely driven by decreases in aggravated assaults (2020). Additionally, Vogler conducted a cost analysis, finding that the estimated reduction in crime amounted to an annual cost savings of about $4 billion (2020).

Another study examining the effects of ACA Medicaid expansions on crime has also found promising results. He and Barkowski argue that Medicaid coverage increases the opportunity cost of crime (2020). These researchers used difference-in-differences methodology to estimate the effects of ACA Medicaid expansion on crime rates at the state- and county-level. In line with previous findings, He and Barkowksi’s estimates suggest that ACA Medicaid expansion was negatively associated with rates of burglary, vehicle theft, homicide, robbery, and assault (2020). They also argue for the crime-reduction benefits of Medicaid expansion in terms of financial costs (He & Barkowski, 2020).

**3 Data**

The data used in this study includes Medicaid enrollment and expansion data, crime data, and demographic data. From each of my main data sources, I obtained data on the years 2010-2019. Of the 38 total expansion states, 31 expanded between 2014 and 2016, and 7 states have expanded since 2019 (The Henry J. Kaiser Family Foundation [KFF]). The final sample of states used in my analysis includes only these 31 states that expanded Medicaid in the years 2014-2016. Since Medicaid expansions began in 2014, collecting data on the years 2010-2019 allowed me to have several years of pre- and post-expansion data.

*3.1 Medicaid Enrollment and Expansion Data*

I obtained data on Medicaid enrollment numbers from the Kaiser Family Foundation. The Kaiser Family Foundation (KFF) is a nonpartisan nonprofit organization focused on national health issues and health policy (KFF). The KFF website has several webpages on Medicaid, CHIP, and Medicaid expansion. They collect data on Medicaid enrollment in each state from the Centers for Medicare and Medicaid Services (CMS) and compile it periodically in a publicly available dataset. For this study, I utilized two KFF datasets. The first dataset included state enrollment counts in thousands for the month of June in years 2006-2013. The second dataset included monthly state enrollment counts for the years 2014-2021. I extracted state enrollment counts for June in the years 2010-2019. In my analysis, June enrollment counts serve as a proxy for average monthly enrollment in each year.

I also collected data on the years of state Medicaid expansions from the individual state profiles on the CMS website.

*3.2. Crime Data*

In order to examine the effects of expansions on crime rates, I utilized crime data from the Federal Bureau of Investigation’s Uniform Crime Report (UCR). I obtained this data from Jacob Kaplan’s concatenated UCR files. Jacob Kaplan’s data includes yearly known UCR offenses for the years 1960-2020. The data is divided by the individual reporting agencies, showing the counts of offenses reported by each agency in each year. From this dataset, I extracted crime data for the years 2010-2019. I then restricted the data to only include data on total crime, total violent index crimes, total property index crimes, homicide, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. With this subset of data, I aggregated the crime counts to the state-year level to obtain total crime counts for each state in each year 2010-2019.

Figure 2: Trends in All Crime, Expansion vs. Non-Expansion States

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*3.3 Demographic Data*

I obtained census data from IPUMS for each state in years 2010-2019. I collected data on race, sex, educational attainment, employment, and income variables. I recorded these demographics as percentages of the state populations.

Jacob Kaplan’s UCR dataset also contained population counts for each state in each year. I extracted these when I collected the crime data, and used population as a control variable and also to calculate crime rates in each state.

*3.4 Final Dataset*

In the final dataset, I have Medicaid enrollment counts, UCR crime counts, population counts, and demographic percentages for each state in each year. I created a dummy variable for the year of Medicaid expansion, with all states being coded as 0 for all years except for the year of expansion, which was coded as 1. I also created a dummy variable for post-expansion years, with the year of expansion and the years following it being coded as 1 and the years before expansion being coded as 0. Table 1 shows basic summary statistics for the main variables included in my analysis.

Table 1: Descriptive Statistics

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Statistic** | **Mean** | **St. Dev.** |
| June Enrollment | 1,431,491.0 | 2,014,280.0 |
| Population | 6,448,391.0 | 7,530,498.0 |
| All Crime | 216,550.4 | 253,582.5 |
| Violent Crime | 23,374.7 | 30,865.0 |
| Property Crime | 147,789.8 | 178,891.2 |
| Murder | 288.5 | 357.9 |
| Rape | 2,169.5 | 2,368.6 |
| Robbery | 6,715.0 | 10,327.3 |
| Aggravated Assault | 14,201.8 | 18,321.1 |
| Burglary | 29,773.1 | 37,396.6 |
| Larceny | 102,494.1 | 115,563.2 |
| Motor Vehicle Theft | 14,553.5 | 27,575.8 |
| Percent Male | 49.1 | 1.0 |
| Percent Female | 50.9 | 1.0 |
| Percent White | 78.9 | 14.4 |
| Percent Black | 7.0 | 6.7 |
| Percent Other Race | 14.1 | 14.4 |
| Percent with Less than High School | 20.4 | 2.2 |
| Percent with Some High School | 7.6 | 1.3 |
| Percent with High School Degree | 30.6 | 3.7 |
| Percent with Some College | 18.7 | 2.1 |
| Percent with College Degree | 14.0 | 2.8 |
| Percent with Advanced Degree | 8.7 | 2.7 |
| Percent Employed | 46.5 | 3.5 |
| Unemployment Rate | 6.5 | 2.4 |
| Percent with Female Head of Household | 19.2 | 1.5 |
| Individual Income | 25,932.1 | 4,696.9 |
| Family Income | 64,369.9 | 12,770.5 |
| Notes: June Enrollment and crime statistics are based on raw counts from the Kaiser Family Foundation and UCR data. | | |

**4 Methods**

To compare the changes in crime rates before and after the implementations of Medicaid expansion, I conduct difference-in-differences analyses and event study analyses. The main outcome variables include all crime, violent index crime, property index crime, homicide, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. Each crime type is analyzed and expressed as a crime rate (per 100,000 people). Control variables, which are included in the summary statistics in Table 1, include state populations and demographic variables, including sex, race, educational attainment, employment, and income variables.

The difference-in-differences analysis tests the overall change in crime rates following the implementation of Medicaid expansion. The final difference-in-differences regression model is as follows:

|  |  |
| --- | --- |
| Yit = ⍺ + \*POST\*TREATit + X′itγ + Si + Jt + t | (1) |

In this model and in the event study regression model (below), Yit is the outcome variable, X′itγ represents the covariates included in the regression, and Si + Jt are state and year fixed effects, respectively.

The event study analysis traces the time path of the effects of Medicaid expansion. The final event study regression model is as follows:

|  |  |
| --- | --- |
| Yit = ⍺ + t\*Dit + X′itγ + Si + Jt + t | (2) |

Here, Dit is a dummy variable for the year relative to Medicaid expansion.

**5 Results**

*5.1 Difference-in-Differences Results*

I first conducted difference-in-differences analyses for total crime rates, property crime rates, and violent crime rates. All rates discussed are per 100,000 people. Figure 3 shows the difference-in-differences estimates graphically. I found that Medicaid expansion was associated with a 2.43% decrease in rates of all, or total, crime, a 2.27% decrease in property crime rates, and a 4.53% decrease in violent crime rates. However, these results were not statistically significant.

Figure 3: Difference-in-Differences Estimates, Grouped Crime

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I then conducted difference-in-differences analyses for the rates of seven specific crime types: homicide, rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. Figure 4 displays the estimates of these difference-in-differences analyses graphically. I found that Medicaid expansion was associated with a 9.94% decrease in homicide rates, a 1.66% increase in rates of rape, a 9.20% decrease in robbery rates, a 3.78% decrease in aggravated assault rates, a 5.05% decrease in burglary rates, a 0.9% decrease in larceny theft rates, and a 6.89% decrease in motor vehicle theft rates. These results were also not statistically significant.

Figure 4: Difference-in-Differences Estimates, Index Crime Rates

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*5.2 Event Study Results*

Figures 5, 6, and 7 show the results of the event study analyses for total crime, violent crime, and property crime, respectively. The points on the graphs represent the estimates in each year relative to Medicaid expansion being implemented, and the dotted lines show the 95% confidence intervals. The event study graphs for the analyses of all crime, total violent crime, and total property crime reflect similar trends in the changes of crime rates over time. Appendix A includes the event study results for the seven more specific crime types. As with the difference-in-differences analyses, each event study uses crime rates (per 100,000 people). The results from each event study analysis show that crime decreased over time, but the results from each regression were not statistically significant.

Figure 5: Event Study Estimates, All Crime (per 100,000 people)

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Figure 6: Event Study Estimates, Violent Crime (per 100,000 people)

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Figure 7: Event Study Estimates, Property Crime (per 100,000 people)

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**6 Discussion**

*6.1 Limitations*

There are several limitations to this study. First, I used aggregate data on yearly crime counts and rates in each state, which may obscure effects of Medicaid expansion on specific subgroups of people. There are agencies that do not report all or any of their crime data to the UCR, and this may also influence state-level crime data. Additionally, the Medicaid data only includes enrollment counts for the month of June in each year. This may mean that not all changes in Medicaid enrollment over time were captured. This analysis would be stronger with data on enrollment counts for each month of each year, or with average monthly enrollment counts for each year, but for this study, I was not able to obtain consistent, complete monthly data on all states for the years 2010-2019.

Another issue is that crime rates were already experiencing a significant decline before the Medicaid expansions were implemented. Because of this, potential crime reduction effects of Medicaid expansion may be difficult to find. I cannot make any causal claims about Medicaid expansion’s effects on crime rates, and it could be that some other event or change was occurring around the same time that Medicaid expansions were being implemented.

Finally, I cannot rule out the possibility that there are unobservable differences between states that have implemented Medicaid expansions and states that have not expanded Medicaid. It could be true that states that expanded Medicaid are fundamentally different from those that have not expanded, and this could also skew my results.

*6.2 Directions for Future Research*

Researchers should continue studying possible crime-reduction effects of Medicaid expansions. Although I did not find statistically significant results, this does not mean that expanding Medicaid or otherwise increasing health insurance coverage will not have positive effects on public safety. From a health perspective, there are several clear benefits of increasing health insurance coverage. I continue to believe that increasing access to health services may also provide benefits in terms of crime-reductions or improved public safety.

In the future, researchers should examine effects in particular states. Because Medicaid is administered and run differently in each state, my analysis may not have captured specific and potentially important differences in state Medicaid programs. Additionally, researchers should focus their analyses on specific subgroups of people. For example, low-income young men are at the highest risk of being involved in criminal activity. This group also is less likely to be eligible for services such as Medicaid. My analysis did not focus on this group, or on any other specific subgroup of people, but future research should direct its attention to these higher-risk groups.

Finally, researchers should examine possible effects of Medicaid expansions on adults who were children when the expansions were implemented. It may be that, as an adult, Medicaid expansions may not have significant effects on criminal behavior, but for children, growing up with Medicaid or other health coverage may decrease the likelihood of becoming involved in criminal activity in the future.

**Acknowledgements**

I would like to thank Dr. Aaron Chalfin, David Mitre Becerril, and Dr. Gregory Ridgeway for their support and feedback throughout the course of this study. The quality of my research and analysis would have been significantly reduced without their guidance.

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**Appendix A**

Appendix A Figure 1: Event Study Estimates, Homicide (per 100,000 people)

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Appendix A Figure 2: Event Study Estimates, Rape (per 100,000 people)

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Appendix A Figure 3: Event Study Estimates, Robbery (per 100,000 people)

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Appendix A Figure 4: Event Study Estimates, Aggravated Assault (per 100,000 people)

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Appendix A Figure 5: Event Study Estimates, Burglary (per 100,000 people)

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Appendix A Figure 6: Event Study Estimates, Larceny (per 100,000 people)

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Appendix A Figure 7: Event Study Estimates, Motor Vehicle Theft (per 100,000 people)

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