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Health Insurance and Mental Health Treatment Use Among Adults With Criminal Legal Involvement After Medicaid Expansion

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Abstract

Objective: Individuals with criminal legal involvement have high rates of substance use and other mental disorders. Before implementation of the Affordable Care Act's Medicaid expansion, they also had low health insurance coverage. The objective of this study was to assess the impact of Medicaid expansion on health insurance coverage and use of treatment for substance use or other mental disorders in this population.

Methods: The authors used restricted data (2010–2017) from the National Survey on Drug Use and Health (NSDUH). Using a difference-in-differences approach, the authors estimated the impact of Medicaid expansion on health insurance coverage and treatment for substance use or other mental disorders among individuals with recent criminal legal involvement.

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Results: The sample consisted of 9,910 NSDUH respondents who were ages 18–64 years, had a household income ≤138% of the federal poverty level, and reported past-year criminal legal involvement. Medicaid expansion was associated with an 18 percentage-point increase in insurance coverage but no change in receipt of substance use treatment among individuals with substance use disorder. Individuals with any other mental illness had a 16 percentage-point increase in insurance coverage but no change in receipt of mental health treatment.

Conclusions: Despite a large increase in health insurance coverage among individuals with criminal legal involvement and substance use or other mental disorders, Medicaid expansion was not associated with a significant change in treatment use for these conditions. Insurance access alone appears to be insufficient to increase treatment for substance use or other mental disorders in this population.

A goal of the Affordable Care Act (ACA) (1) was to increase health insurance coverage and health care services for low-income adults by expanding Medicaid. This goal was especially salient for the millions of community-dwelling individuals with a history of criminal legal involvement who, before the ACA, were largely uninsured (2–5). Approximately 70% of individuals with a history of criminal legal involvement have a substance use or other mental disorder (6–9), and it was believed that Medicaid expansion would have a large impact on access to substance use and mental health treatment in this high-need population (2, 4, 10, 11).

As of 2022, a total of 39 states and Washington, D.C., have expanded Medicaid, with 11 choosing to opt out of expansion (12). For adults with criminal legal involvement, studies (13–17) have shown an increase in insurance coverage after the ACA and Medicaid expansion, but the effect of the expansion on subpopulations with higher needs has not been documented because of limits on access to nationally representative, state-level data. Of the studies evaluating the impact of the ACA on individuals with criminal legal involvement and substance use and other mental disorders (13, 14, 18), only one examined differences between Medicaid expansion and nonexpansion states. That study (18), which used the Substance Abuse and Mental Health Services Administration's (SAMHSA's) Treatment Episode Data Set, reported an increase in receipt of medications for opioid use disorder among individuals referred by the criminal legal system that was attributable to Medicaid expansion. The effect of Medicaid expansion on a broader range of substance use treatment and on mental health treatment among people with criminal legal involvement has not been evaluated.

Therefore, we aimed to use nationally representative data to evaluate the impact of Medicaid expansion on health insurance coverage, as well as on receipt of treatment for substance use and other mental disorders, in this population. We hypothesized that Medicaid expansion would be associated with increased insurance coverage and increased treatment for substance use and other mental disorders in this population.

METHODS

We used restricted data (2010 to 2017) from the National Survey on Drug Use and Health (NSDUH). Sponsored by SAMHSA, the NSDUH is a cross-sectional, nationally

representative, annual survey of U.S. noninstitutionalized residents ages ≥12 years (19). The NSDUH collects data on substance use, mental health, and health service use and interviews approximately 65,000 individuals a year via telephone, in person, and with computer-assisted survey techniques (19). For this study, we used restricted-use NSDUH data to access state-level variables not available in the public data file.

Study Sample

We limited our sample to adults ages 18–64, with household income ≤138% of the federal poverty level (FPL) and with past-year criminal legal involvement. We defined low income according to the eligibility threshold for Medicaid in the ACA expansion provision. We defined past-year criminal legal involvement on the basis of responses to questions regarding past-year arrest (excluding minor traffic violations), parole, or probation.

We then narrowed our sample to individuals who met diagnostic criteria for a past-year substance use disorder or any other mental disorder. We defined past-year substance use disorder on the basis of responses that mapped to *DSM-IV* diagnostic criteria (20, 21). The NSDUH used these responses to estimate past-year substance use disorder; we then collapsed the responses into a single variable of past-year substance use disorder. Because of survey design changes beginning with the 2015 NSDUH, we limited our substance use disorder variable to include use of alcohol, cannabis, cocaine, and heroin; other substance use disorders could not be reliably compared before and after 2015 (22). We defined past-year mental illness by using NSDUH measures of any mental illness, which are derived from a SAMHSA-validated predictive model that incorporates responses from the Kessler Psychological Distress Scale and the World Health Organization Disability Assessment Schedule (21, 23).

Exposure of Interest

We defined states that expanded Medicaid between 2010 and 2017 via Kaiser Family Foundation data (12). By 2017, a total of 32 states had expanded Medicaid, with an additional seven expanding Medicaid later (12). To account for differences in the timing of Medicaid expansion implementation, we defined exposure to Medicaid expansion by state of residence and by quarter year of survey participation. Participants were considered exposed to Medicaid expansion if they had lived in a state for any quarter year after Medicaid expansion was implemented (see Table S1 in the online supplement to this article).

Outcomes of Interest

Our outcomes of interest included health insurance coverage, receipt of substance use treatment, and receipt of mental health treatment. We categorized respondents as insured if they reported being enrolled in a private or public health insurance plan. We subsequently categorized their insurance coverage as Medicaid, private, or other (e.g., TRICARE, Veterans Health Administration, or Medicare).

We categorized substance use treatment as self-reported receipt of inpatient or outpatient treatment for illicit drug or alcohol use in the past year. We defined mental health treatment as self-reported receipt of inpatient, outpatient, or pharmacy services for mental health

in the past year. Inpatient mental health treatment was queried by asking whether the participant had a stay “overnight or longer in a hospital or other facility to receive treatment or counseling for any problem you were having with your emotions, nerves, or mental health.” Outpatient mental health treatment was queried by asking whether the participant had received any “outpatient treatment or counseling for any problem you were having with your emotions, nerves, or mental health at any of the places listed.” Prescription medication receipt was queried by asking about receipt of “any prescription medication that was prescribed for you to treat a mental or emotional condition.”

Covariates

We adjusted the analyses for participant age, gender, race and ethnicity, urban or rural location, marital status, and employment status. Age was included as a continuous variable. Gender categories were based on self-report, and individuals were categorized as either male or female. “Other” race and ethnicity included respondents who identified as non-Hispanic Native American or Alaska Native, non-Hispanic Native Hawaiian or Pacific Islander, or non-Hispanic Asian American, as well as respondents who reported more than one race or ethnicity category. To account for structural racism’s possible confounding effect on our association of interest, we controlled the analyses between expansion and nonexpansion states for race and ethnicity. Rural or urban county of residence was defined by using rural-urban continuum codes (24).

Analysis

In our sample of low-income adults with criminal legal involvement, we estimated weighted proportions of substance use disorders, mental illness, and baseline sociodemographic characteristics among those who resided in Medicaid expansion and nonexpansion states. We restricted our sample to those with past-year substance use or other mental disorders for the remainder of our analyses. To estimate the impact of Medicaid expansion on health insurance coverage and treatment among individuals with a substance use disorder or any other mental disorder, we used standard difference-in-differences (DiD) methods.

DiD is a quasi-experimental approach used to estimate the impact of an intervention or policy by comparing outcomes before and after implementation between exposed and unexposed groups. This method can be used to account for secular trends and unobservable differences between exposed and unexposed groups, relying on the assumption that absent the intervention, the groups exposed and unexposed to the intervention would have parallel trends in the outcome. We investigated this assumption by visual confirmation and by statistically testing pre-ACA trends in rates of insurance coverage and reported treatment use between expansion and nonexpansion states.

To perform the DiD estimation, we used multivariable linear regression models, which included an interaction term between a variable for quarter years before and after ACA implementation and a variable for Medicaid expansion status. We performed an unadjusted analysis and an analysis that was adjusted for age, gender, race-ethnicity, rurality, and employment status, as well as for state and year fixed effects. Standard errors were clustered at the state level. We used predictive margins to generate adjusted estimates of insurance

coverage, treatment use, and a DiD estimate. Sample weights were used with all analyses to account for the survey's complex sample design and were performed with Stata, version 15.1. We conducted all our analyses between March 2020 and December 2021 in a federal statistical research data center managed by the U.S. Census Bureau. All results were cleared for disclosure by SAMHSA, but the agency had no role in the study design, analysis, or interpretation of results. This study used deidentified secondary data, and therefore, according to Yale University policy, it did not require institutional review board approval.

Sensitivity Analyses

Although the expanded Medicaid eligibility requirements were identical across states that accepted Medicaid expansion, states varied in when they implemented the expansion and in the relative difference from preexpansion income eligibility thresholds (because of differences in these thresholds before expansion) (25). Several states took advantage of provisions in the ACA that allowed for implementation of expanded Medicaid eligibility before January 2014. We did not adjust for this variation in our primary analysis, because previous research (26) has indicated that Medicaid coverage gains attributable to these changes prior to 2014 were limited. In addition, several states had implemented programs for Medicaid access for childless, nondisabled adults with income eligibility requirements .100% of the FPL before the ACA, and therefore the relative impact of Medicaid expansion was potentially less in these states than in states that had not implemented these programs.

To account for possible differences in the effect of Medicaid expansion because of this variation, we undertook two sensitivity analyses. In the first analysis, we categorized expansion states as "early implementation states" (i.e., before January 2014), "on-time implementation states" (i.e., in January 2014), and "late implementation states" (i.e., after January 2014). For the second analysis, we categorized states as "major expansion states" (i.e., states that had lower pre-ACA income limits and generally no access to Medicaid for childless, nondisabled adults) and "minor expansion states" (i.e., states that had pre-ACA income eligibility for childless, nondisabled adults with incomes at least 100% of the FPL). These categories aligned with those of previous studies (25). (Details on the categorization of expansion states for these sensitivity analyses are available in Table S2 of the online supplement.) For both sensitivity analyses, we generated DiD estimates for each category as in our primary analysis.

RESULTS

Our sample consisted of 9,910 respondents who were ages 18–64 years, had a household income ≤138% of the FPL, and reported past-year criminal legal involvement; 6,043 of these individuals resided in states that had expanded Medicaid, and 3,867 resided in states that had not expanded Medicaid. In expansion states, 34% met criteria for past-year substance use disorder, and 38% met criteria for having any other mental disorder in the past year (Table 1). In Medicaid nonexpansion states, 29% met criteria for past-year substance use disorder, and 38% met criteria for having any other mental illness in the past year. Compared with respondents with past-year criminal legal involvement in nonexpansion states, respondents with past-year criminal legal involvement in expansion states were more likely to be men,

less likely to be Black, more likely to be Hispanic, and more likely to live in a small or large metropolitan area.

Insurance Coverage

After implementation of the ACA, insurance coverage for low-income adults with criminal legal involvement and past-year substance use disorder increased from 62% (95% CI=54%–70%) to 83% (95% CI=79%–86%) in expansion states and from 46% (95% CI=41%–51%) to 48% (95% CI=34%–62%) in nonexpansion states (Table 2 and Table S3 in the online supplement). Insurance coverage for low-income adults with criminal legal involvement and past-year other mental disorder rose from 68% (95% CI=59%–76%) to 88% (95% CI=87%–90%) in expansion states and from 52% (95% CI=45%–59%) to 58% (95% CI=49%–66%) in nonexpansion states.

In our adjusted DiD model, we observed a statistically significant 18 percentage-point increase (p=0.04) in insurance coverage associated with Medicaid expansion among adults with criminal legal involvement and past-year substance use disorder (Table 2 and Table S3 in the online supplement). For individuals with a past-year other mental disorder, we noted a 16 percentage-point increase (p=0.04) in insurance coverage associated with Medicaid expansion.

Substance Use Treatment

The proportion of individuals in our sample who received any substance use treatment rose from 34% (95% CI=30%–37%) to 38% (95% CI=32%–44%) in expansion states and from 26% (95% CI=22%–30%) to 29% (95% CI=22%–36%) in nonexpansion states (Table 3 and Table S4 in the online supplement). We observed no significant change in the proportion receiving substance use treatment associated with Medicaid expansion; the DiD was 0.1 percentage points in the unadjusted analysis and −0.7 percentage points in the adjusted analysis.

Other Mental Health Treatment

The proportion of individuals in our sample of low-income adults with past-year criminal legal involvement who reported receiving any other mental health treatment increased from 52% (95% CI=48%–56%) to 54% (95% CI=49%–60%) in states that expanded Medicaid and decreased from 50% (95% CI=43%–57%) to 43% (95% CI=39%–49%) in states that did not expand Medicaid (Table 3 and Table S4 in the online supplement). In our DiD model, we observed no significant change among those receiving other mental health treatment attributable to Medicaid expansion; the DiD was 9 percentage points in the unadjusted analysis and 8 percentage points in the adjusted analysis.

Sensitivity Analyses

In our first sensitivity analysis, with analyses controlled for variation in timing of Medicaid expansion, we observed similar increases in insurance coverage attributable to expansion among low-income adults with past-year criminal legal involvement and a substance use disorder or any other mental illness. As in our primary analysis, we observed no increases in substance use treatment attributable to expansion and a trend toward an increase in

other mental health treatment attributable to the expansion. In our second sensitivity analysis controlling for variation in pre-ACA income eligibility, we observed no increases in insurance coverage in minor expansion states and large increases in insurance coverage in major expansion states attributable to the expansion. As in our primary analysis, we observed no differences in substance use or other mental health treatment in minor or major expansion states. (Complete results of our sensitivity analyses are available in Tables S5–S7 of the online supplement.)

DISCUSSION

We found that Medicaid expansion led to a sizable increase in insurance coverage among individuals with criminal legal involvement and a substance use disorder or any other mental disorder. These gains in insurance coverage led to no measurable changes in the proportion of individuals who received treatment for a substance use or other mental disorder. This discrepancy suggested that Medicaid expansion and increased insurance coverage alone are not sufficient to increase treatment for substance use and other mental disorders in this population.

These findings build on data showing minimal effects of the ACA on treatment for substance use and other mental disorders among adults with low incomes and criminal legal involvement (15, 18). A previous study (13) of mental health treatment use among adults with criminal legal involvement before and after the ACA, which did not disaggregate expansion and nonexpansion states, reported no change in the proportion receiving mental health treatment. The results of our study indicated that even when the analyses were controlled for differences in expansion status, no difference in mental health service use was detected.

Several studies have examined the effect of Medicaid expansion on substance use treatment not specific to individuals with criminal legal involvement. A previous study (27) showed that Medicaid expansion did not increase treatment among low-income adults with the same substance use disorders we studied. Our study, which used more years of NSDUH data, expanded on this finding and revealed that the discrepancy between insurance coverage and treatment utilization for substance use or other mental disorders persisted among individuals with criminal legal involvement. Other studies have associated Medicaid expansion with an increase in treatment episodes for substance use disorder (28) and, specifically, an increase in the number of treatment episodes that provided medication for opioid use disorder and were initiated as a criminal legal system referral (18). In the context of our findings of no change among individuals reporting receiving past-year addiction treatment, it is possible that Medicaid expansion may have been associated with a shift in the type and quality of addiction treatment for people with criminal legal involvement but not with a change in the total number of individuals who accessed treatment. This discrepancy may also reflect the limits of NSDUH's self-reported treatment variables or may indicate that the changes were too small to be identified, given the NSDUH sample size.

Several reasons may explain why treatment use may have stagnated despite insurance coverage increases in the wake of Medicaid expansion. In many jurisdictions, there is

a scarcity of providers of substance use and other mental health treatment who accept Medicaid coverage. Prior to the ACA, 40% of U.S. counties had no substance use outpatient facilities that accepted Medicaid (29), and one-third of U.S. counties had no outpatient mental health treatment facility that accepted Medicaid (30, 31). In addition, uneven enforcement of substance use and mental health parity laws may hinder the impact of insurance gains (32, 33). Finally, people with criminal legal involvement experience higher rates of poverty, housing instability, and food insecurity, which have been shown to decrease initiation and retention of treatment for substance use and other mental disorders (34, 35). To successfully engage in treatment, individuals with a history of criminal legal involvement must also navigate stigma and discrimination within the health care system (34–36).

Several programs, if applied more broadly, could improve engagement in treatment for substance use and other mental disorders among people with criminal legal involvement. These programs, such as the Transitions Clinic Network—an enhanced primary care model designed for people released from incarceration—could facilitate access to needed treatment (37, 38). Similarly, programs that assist with Medicaid enrollment and transitions of care before release from prison have shown increased use of substance use treatment after release (39).

This study had some limitations. Because of survey limitations, we used a binary measure of treatment use, which may have missed important differences in the quantity and quality of past-year substance use and other mental health treatment. Additionally, the NSDUH methodology underestimates the prevalence of opioid use disorder. Although this limitation precluded our ability to provide definitive estimates of the prevalence of substance use disorder among individuals with past-year criminal legal involvement, it would not have affected our DiD analysis, assuming that any underestimation was consistent across survey years and in expansion and nonexpansion states. Criminal legal involvement, insurance coverage, and treatment use were based on self-report and were therefore susceptible to recall bias.

CONCLUSIONS

Despite statistically significant increases in insurance coverage among low-income adults with past-year criminal legal involvement, we found no appreciable change in the proportion of individuals receiving treatment for substance use or other mental disorders after the ACA's Medicaid expansion. These findings highlight that increased insurance coverage is likely necessary, but insufficient by itself, to increase access to needed treatment for substance use and other mental disorders in this population. Without increasing efforts and innovations to address system- and individual-level barriers that impair treatment access in this population, the United States is unlikely to improve treatment use or fulfill the promise of Medicaid expansion for people with criminal legal involvement and substance use or other mental disorders.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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HIGHLIGHTS

- Among low-income adults with criminal legal involvement, Medicaid expansion was associated with an 18 percentage-point increase in health insurance coverage among those with substance use disorders and a 16 percentage-point increase among those with any other mental illness.
- Medicaid expansion was not associated with an increase in treatment for substance use among low-income adults with criminal legal involvement.
- Medicaid expansion was not associated with an increase in treatment for other mental illnesses among low-income adults with criminal legal involvement.

TABLE 1.

Sociodemographic, substance use disorder, and mental health characteristics of low-income adults (N59,910) with a history of past-year criminal legal involvement, by Medicaid expansion status (2010–2017)[a]

	Medicaid expansion nonexpansion states (N=6,043)		Medicaid states (N=3,867)	
Characteristic	**Weighted %**	**95% CI**	**Weighted %**	**95% CI**
Age (years, M±SD)	34.1±9.8		34.4±9.9	
Female gender	33	31–36	36	34–39
Race-ethnicity				
Non-Hispanic White	47	45–50	47	44–50
Non-Hispanic Black	23	21–25	30	28–33
Hispanic	23	21–25	19	17–21
Other	7	6–8	5	4–6
Urban or rural[b]				
Large or small urban	84	82–85	75	73–78
Rural	16	15–18	25	22–27
Employment				
Unemployed	20	18–21	20	18–22
Part-time	15	14–17	15	14–17
Full-time	29	27–32	34	31–36
Not in labor force	36	34–38	32	29–34
Past-year substance use disorder (any)[c]	34	32–36	29	26–31
Heroin use	4	3–5	2	1–2
Alcohol use	26	24–27	22	21–24
Cocaine use	4	3–5	4	3–5
Cannabis use	10	9–12	8	7–10
Any other mental illness[d]	38	36–40	38	34–39

[a]Source: National Survey on Drug Use and Health (NSDUH). Expansion states are those that expanded Medicaid enrollment by 2017 (AK, AR, AZ, CA, CO, CT, DC, DE, HI, IA, IL, IN, KY, LA, MA, MD, MI, MN, ND, NH, NJ, NM, NV, NY, OH, OR, PA, RI, VT, WA, and WV).

[b]Determined via county-level rural-urban continuum codes developed by the U.S. Department of Agriculture.

[c] Includes past-year heroin, alcohol, cocaine, or cannabis use disorder; because of changes in NSDUH methodology starting in 2015, other substance use disorders could not be accurately tracked across all the years of this study.

[d] Self-report of symptoms via the Kessler Psychological Distress Scale and the World Health Organization Disability Assessment Schedule.

TABLE 2.

Changes in insurance coverage for low-income adults with past-year criminal legal involvement, before and after implementation of the Affordable Care Act (ACA), by Medicaid expansion status (2010–2017)[a]

	Medicaid expansion states					Medicaid nonexpansion states					Difference-in-differences estimate		
Insurance coverage	Before ACA (weighted %)	After ACA (weighted %)	Difference (percentage points)	95% CI	p	Before ACA (weighted %)	After ACA (weighted %)	Difference (percentage points)	95% CI	p	Adjusted model (percentage points)	95% CI	p
Substance use disorder[b]	62	83	21	12–28	<.001	46	48	2	−13 to 18	.81	18	1–35	.04
Any other mental illness[c]	68	88	20	13–29	<.001	52	58	6	−8 to 20	.41	16	1–32	.04

[a]Source: National Survey on Drug Use and Health. The complete table is available in the online supplement to this article.

[b]Analysis was limited to individuals with past-year substance use disorder.

[c]Analysis was limited to individuals with any past-year mental disorder other than a substance use disorder.

TABLE 3.

Changes in treatment use for substance use and other mental disorders among low-income adults with past-year criminal legal involvement, before and after implementation of the Affordable Care Act (ACA), by Medicaid expansion status (2010–2017)[a]

	Medicaid expansion states					Medicaid nonexpansion states					Difference-in-differences estimate		
Treatment	Before ACA (weighted %)	After ACA (weighted %)	Difference (percentage points)	95% CI	p	Before ACA (weighted %)	After ACA (weighted %)	Difference (percentage points)	95% CI	p	Adjusted model (percentage points)	95% CI	p
Any substance use[b]	34	38	4	−3 to 10	.23	26	29	3	−5 to 11	.49	−0.7	−10 to 8	.96
Any other mental health[c]	52	54	3	−4 to 9	.45	50	43	−7	−15 to 2	.15	8	−3 to 19	.18
Inpatient mental health[c]	14	12	−2	−7 to 3	.50	11	9	−2	−5 to 4	.26	−1	−7 to 6	.84
Outpatient mental health[c]	30	31	0.3	−7 to 8	.93	32	23	−9	−17 to 0.5	.04	7	−4 to 17	.22
Pharmacy mental health[c]	45	47	1	−5 to 8	.72	45	37	−8	−18 to 0.9	.08	8	−4 to 20	.18

[a] Source: National Survey on Drug Use and Health. The complete table is available in the online supplement to this article.

[b] Analysis was limited to individuals with past-year substance use disorder.

[c] Analysis was limited to individuals with any past-year mental illness other than a substance use disorder.