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Changes in Medicaid acceptance by substance abuse treatment facilities after implementation of federal parity

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Abstract

Background—Adequate access for mental illness and substance use disorder (SUD) treatment, particularly for Medicaid enrollees, is challenging. Policy efforts, including the Mental Health Parity and Addiction Equity Act (MHPAEA), have targeted expanded access to care. With MHPAEA, more Medicaid plans were required to cover SUD treatment, which may impact provider acceptance of Medicaid.

Objectives—To identify changes in Medicaid acceptance by SUD treatment facilities after the implementation of MHPAEA (“parity”).

Research Design—Observational study using an interrupted time series design.

Subjects—2002–2013 data from the National Survey of Substance Abuse Treatment Services (N-SSATS) for all SUD treatment facilities was combined with state level characteristics.

Measures—Primary outcome is whether a SUD treatment facility reported accepting Medicaid insurance.

Results—Implementation of MHPAEA was associated with a 4.6 percentage point (pp) increase in the probability of an SUD treatment facility accepting Medicaid ($p < 0.001$), independent of facility and state characteristics, time trends, and key characteristics of state Medicaid programs.

Conclusions—After parity, more SUD treatment facilities accepted Medicaid payments, which may ultimately increase access to care for individuals with SUD. The findings underscore how parity laws are critical policy tools for creating contexts that enable historically vulnerable and underserved populations with SUD to access needed healthcare.

Introduction

Of the estimated 21 million people with a substance use disorder (SUD) in 2016, less than 20% received any treatment for it.¹ Chief among the many reasons for this SUD treatment-need gap is the inadequate access to treatment for SUD and other behavioral health conditions.^{2–4} Over the past decade, several policy initiatives were enacted to address this problem. In particular, the Paul Wellstone and Pete Domenici Mental Health Parity and

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Addiction Equity Act (MHPAEA) and provisions of the Affordable Care Act (ACA) significantly changed regulations governing behavioral health insurance benefits.^{4,5} Little is known about the impacts that these changes in health care policies have had on SUD treatment availability and access.

Parity laws are designed to make insurance coverage for mental health, and later SUD treatment, on par with insurance coverage for other medical conditions. MHPAEA was passed in 2008 and took effect in 2010. MHPAEA built on previous federal parity laws, which did not apply to SUD treatment. It also expanded application of parity provisions to a wider set of insurance plans and – key to our analysis of Medicaid acceptance by SUD treatment facilities – to SUD benefits.⁶ MHPAEA applied parity requirements to quantitative treatment limits (e.g., deductibles, caps on number of visits) and non-quantitative treatment restrictions (e.g., standards for provider participation in an insurance network).⁶ MHPAEA applied to insurance offered by employers with 51 or more workers, Medicaid managed care plans, and Children's Health Insurance Program plans; ⁶ parity in benefits was required if benefits for mental health and SUD treatment were included in the insurance plan.⁶ Regulatory guidance on MHPAEA was slow, with an interim final rule available in 2010, the final rule released in 2013, and further regulatory guidance on implementation of parity in 2016;⁶ thus, enforcement of parity has been challenging. Twenty-six states implemented parity laws including SUD treatment prior to implementation of MHPAEA, and 16 others had some form of parity law.⁷ However, state parity laws differed substantially across states in scope, what type of plans were included, and whether treatment for SUD was included in benefits.^{7,8} Additionally, the Employee Retirement Income Security Act exempted self-insured employers from these state parity laws, blunting the impact of these laws on access to SUD care.⁸

Historically, most treatment for SUD has occurred in specialty services settings that are segregated from treatment for medical conditions.⁵ Also, unlike with medical care, SUD services are disproportionately financed by state and federal direct funds. For example, in 2005, 52% of SUD treatment spending was financed by non-Medicaid federal and state funds, versus 11% of overall healthcare spending.⁹ Between 2004 and 2014, spending for SUD treatment financed by Medicaid, Medicare, and private health insurance increased from 43% to 49%.¹⁰ With recent expansions in Medicaid coverage, a substantial proportion of individuals with SUD are either covered by Medicaid or uninsured and potentially Medicaid eligible.^{11,12}

Despite having insurance coverage, Medicaid enrollees often have less access to care than individuals with other types of insurance,^{13–16} which is influenced by a number of factors. Insufficient provider networks and the use of other non-financial barriers within insurance plans function as barriers to SUD treatment.^{7,17–19} Particularly challenging for Medicaid enrollees is their limited access to specialty providers to treat co-occurring mental health conditions and SUD,^{5,16,20–22} and longer wait times for treatment.²³ In 2009, approximately 60% of US counties had at least 1 outpatient SUD treatment facility that accepted Medicaid, with substantial variation in acceptance rates across states.^{21,22} Certain aspects of state Medicaid policy are associated with Medicaid acceptance by SUD treatment facilities. For example, SUD treatment facilities are more likely to accept Medicaid when Medicaid covers

SUD treatment, if the Medicaid program covers a greater number of SUD treatment services, and when physicians are not required to be involved in treatment delivery.^{24–27}

Previous research has found that state health reform, state level parity laws, and changes in insurance coverage impact SUD treatment patterns.^{28–32} In particular, parity laws at the state level increased SUD treatment rates,⁷ but in the first decade of implementation, they did not increase public insurance acceptance by SUD treatment facilities.³¹ However, these state parity laws varied substantially in scope and application of the laws to SUD treatment and Medicaid plans. At the federal level, implementation of MHPAEA did not increase in the proportion of insured enrollees receiving SUD treatment,^{12,33} but it did increase receipt of out-of-network SUD treatment.³³ Based on these findings, one potential way to improve access for SUD treatment, particularly for Medicaid enrollees, is to increase the number of SUD treatment providers who accept Medicaid insurance. A large proportion of individuals with SUDs are covered by Medicaid^{11,34} and the vast majority of Medicaid enrollees nationally – 81% in 2016 – are enrolled in Medicaid managed care plans, which are subject to MHPAEA regulations.^{35,36} Similar to earlier findings that SUD treatment facilities are more likely to accept Medicaid when the state Medicaid program covers SUD treatment,²⁴ SUD treatment facilities may respond to increased Medicaid coverage of SUD treatment due to parity by increased acceptance of Medicaid coverage by SUD treatment facilities. To our knowledge, no previous studies have examined whether the implementation of MHPAEA led to changes in Medicaid acceptance among SUD treatment facilities.

To fill this gap in knowledge, we analyze data from all SUD treatment facilities from 2002 to 2013 to identify changes in Medicaid acceptance after the implementation of the MHPAEA (“parity”). With this increase in the population with Medicaid that covers SUD treatment, we hypothesize that after the implementation of parity, more SUD treatment facilities would accept Medicaid.

Methods

We use the 2002–2013 National Survey of Substance Abuse Treatment Services (N-SSATS), collected by Substance Abuse and Mental Health Services Administration, to examine rates of Medicaid acceptance at SUD treatment facilities before and after the implementation of parity laws, controlling for facilities and state characteristics as well as time trends.

Data and Sample

N-SSATS is an annual survey of all SUD treatment facilities; the survey has very high response rates averaging 95% over the 2002–2013 period.³⁷ The primary analytic sample is limited to treatment facilities that provide SUD treatment services, do not provide free treatment to all, and do not have a DUI/DWI program.³⁸ To avoid attributing the potential effects of Medicaid expansion and other provisions of the ACA to federal parity, we limit the analysis to the period before 2014; additionally, we exclude states with early ACA Medicaid expansion (i.e., Delaware, District of Columbia, Massachusetts, New York, Vermont).³⁹ We exclude treatment facilities from the primary sample if they have missing data on any of the following variables: Medicaid acceptance, state of facility, number of clients (continuous or categorical), ownership status, located in a hospital, licensing status, accreditation status, and

offering no charge or free treatment, an opioid treatment program, outpatient substance use services, residential (non-hospital) substance use services, and treatment in language other than English. Number of outpatient, residential, and hospital inpatients are recorded as continuous variables through 2006, and are categorical variables thereafter; number of clients is reported for the types of treatment the facility provides. For each facility, we categorize them as a small facility if they are in the smallest quintile for all three treatment modalities – inpatient, residential, and outpatient – if that modality is present; we categorize them as a large facility if they are in the largest quintile for each treatment modality provided. Full information on missing data by year is shown in Supplemental Appendix Table 1.

We link this survey data using facility location to state-level data on Medicaid and population characteristics. Medicaid characteristics include Medicaid managed care penetration,³⁶ Medicaid expansion to low-income adults between 2010 and 2014,³⁹ Medicaid expansion to low-income adults on or before January 2014,⁴⁰ and Medicaid-to-Medicare fee ratios for “other services” varying over time.^{41–45} We additionally link to information on state-level parity laws in place prior to 2010³¹ and to a measure of how restrictive Medicaid benefits in a state are for SUD treatment.²⁷ As the federal parity law applied to Medicaid managed care plans but not Medicaid fee-for-service,³⁵ we construct a measure of above and below median Medicaid managed care penetration rates using 2009 data at the state level.³⁶ State population characteristics include total population,⁴⁶ unemployment rate,⁴⁷ percent Hispanic,⁴⁶ percent Black,⁴⁶ percent White,⁴⁶ percent of those 12 years and older with SUD,⁴⁸ percent covered by Medicaid,^{49,50} and percent covered by Medicare.^{49,50}

Statistical Analysis

We first describe characteristics of facilities that do and do not accept Medicaid, with statistical comparisons by chi-squared tests and t-tests as appropriate. Changes over time are examined using average percent of facilities accepting Medicaid by year, with changes to acceptance versus 2002 calculated using linear regression of Medicaid acceptance regressed on year dummy variables, with standard errors adjusted for clustering of facilities at the state level. We then control for facility and state characteristics as described below.

Using an interrupted time series approach, we test for associations between the implementation of the federal parity law and Medicaid acceptance. In regression analyses, we define the outcome as a binary indicator of Medicaid acceptance by the facility. The primary independent variable is a binary indicator for being in the post-parity period (2010 and after). Based on prior research, we include controls for these facility characteristics: ownership status, facility size indicators, located in a hospital, licensing status, accreditation status, offering no charge or free treatment, an opioid treatment program, outpatient substance abuse services, residential (non-hospital) substance abuse services, and treatment in language other than English. We also include state fixed effects to control for unobserved factors that vary across states but not over time and a national linear time trend to control for secular trends in Medicaid acceptance. We include state level characteristics that vary by year: total population, unemployment rate, percent Hispanic, percent Black, percent White,

percent of those 12 years and older with SUD, percent covered by Medicaid, and percent covered by Medicare. Standard errors are adjusted for clustering of facilities at the state level for the primary analyses.

We conduct sensitivity analyses to examine whether our results are robust to a number of other potential explanations related to insurance and Medicaid policy. We examine whether results differ in states with and without existing SUD parity laws; whether results are sensitive to the exclusion of early Medicaid expanders or changes in Medicaid-to-Medicare fee ratios across states and over time; whether results differ in states that did or did not expand Medicaid by 2014; and, based on the work of Andrews and colleagues,²⁷ whether results differ in states with different levels of restriction in their state Medicaid plans for SUD treatment coverage. These analyses use standard errors adjusted for clustering of facilities at the state level or robust standard errors as noted in each table, depending on the number of states in the analysis.

Analyses are conducted in Stata-MP 15.1 (College Station, TX). An alpha of 0.05 was considered significant.

Results

An average of 6,940 treatment facilities each year have full information and meet the inclusion criteria. This results in a total of 83,284 facility-year observations over the 2002–2013 period (Table 1). This is 51.3% of reporting facilities; the primary reasons for facilities dropping out of the analysis are having a DUI/DWI program (30.4% of reporting facilities) and being in an early Medicaid expansion state (10.8% of reporting facilities).

Medicaid acceptance rates are 55.5% over the period, which is lower than private health insurance acceptance rates (65.9%) and higher than Medicare acceptance (33.8%). Facilities that accept Medicaid are more likely to be owned by private non-profits and less likely to be owned by private for-profit organizations. They are also more likely to be located in a hospital and offer outpatient and/or hospital inpatient services and less likely to offer residential (non-hospital) services. Facilities that accept Medicaid are also more likely to be in states with above median Medicaid managed care penetration in 2009 and in states with lower Medicaid-to-Medicare fee ratios. All of these differences are statistically significant.

As shown in Figure 1, rates of Medicaid acceptance compared to 2002 are relatively stable until 2010, when an increased number of facilities begin accepting Medicaid, with an increase of more than 12.5 percentage points (pp) from 2002 to 2013, which is an increase of more than 25% from 2002. This increase over time persists even after controlling for a number of facility and state characteristics. The adjusted results show that differences from 2002 are not statistically significant from 2003–2009, and are statistically significant for 2010–2013.

Medicaid acceptance is significantly higher after parity, with an associated increase of 6.0 pp ($p<0.001$) without controls and 4.6 pp ($p<0.001$) with controls (Table 2; full results in Supplemental Appendix Table 2). The 4.6 pp increase in Medicaid acceptance associated

with federal parity can also be interpreted as an 8.4% increase from 2009, when 54.6% of facilities accepted Medicaid.

Large geographic variation exists in Medicaid acceptance rates, even after parity implementation, as shown in Figure 2. Higher Medicaid acceptance rates are generally seen in the northeast, with lower rates in the south and southeast. The bottom quintile of states, including states with large populations (e.g., California, Florida), have fewer than 56% of facilities accepting Medicaid in 2013.

We conduct a number of sensitivity analyses to determine whether results are different in states with state-level parity laws in place prior to federal parity (Supplemental Table 3); whether results differ when states with early Medicaid expansion are added (Supplemental Table 4, Columns 1 and 2); whether results differ when a control for the state-level Medicaid-to-Medicare fee ratio are added (Supplemental Table 4, Column 3); whether results vary in states that did and did not expand Medicaid by 2014 (Supplemental Table 5); and whether results vary based on levels of Medicaid benefit restrictions for SUD treatment (Supplemental Table 6).

We find that the association of parity with Medicaid acceptance is larger in states with existing state-level parity laws but follow a similar pattern as the main results (Supplemental Table 3). When we include states with early Medicaid expansion and Medicaid-to-Medicare fee ratio (Supplemental Table 4), results are very similar to the main analysis. The Medicaid-to-Medicare fee ratio did not have a statistically significant association with the probability of Medicaid acceptance. Stratifying by facilities in states that did versus did not expand Medicaid by 2014 (Supplemental Table 5) shows that there were not large differences that might indicate anticipatory effects of Medicaid expansion; in fact, the association of parity with Medicaid acceptance was slightly larger in non-expansion states than expansion states. When we stratify results by states with different levels of restrictions on SUD treatment inclusion in Medicaid programs, based on information from 2014 Medicaid programs, we find broadly similar overall results as to our main findings (Supplemental Table 6); additionally, there is larger association of parity with Medicaid acceptance in states with high restriction than in states with low and medium restrictions.

Discussion

A significant increase in Medicaid acceptance by SUD treatment facilities occurred after the implementation of the MHPAEA in 2010. Specifically, the overall increase in Medicaid acceptance after parity was large, with 12.5 pp more facilities accepting Medicaid in 2013 than in 2002. After controlling for facility and state characteristics, there was a 4.6 pp increase in the probability of Medicaid acceptance after parity. These results persist after controlling for other characteristics of state Medicaid programs, including having above median Medicaid managed care penetration and Medicaid-to-Medicare fee ratios.

This significant association of higher Medicaid acceptance after parity is present in states that do and do not expand Medicaid in 2014, and in states with differing levels of restrictiveness for Medicaid coverage of SUD treatment. The association of Medicaid

acceptance and parity is qualitatively larger in states with higher restriction on SUD treatment inclusion in Medicaid programs, although there was significantly higher acceptance post-parity across the distribution of restrictiveness. We also find somewhat larger impacts of federal parity in states with existing parity laws for SUD treatment; given differences in state parity laws and the fact that the federal parity law required parity in benefits only if benefits for SUD treatment were offered, it may be that more plans in these states had required benefits for SUD treatment and thus the federal parity law therefore had more of an impact in these states. Given overall low rates of Medicaid acceptance in the baseline period (49.4% in 2002), both in absolute levels and compared to Medicaid acceptance by other types of providers,^{10,15,53} this post-parity increase in Medicaid acceptance by SUD treatment facilities may result in significant expansions in access to care for those enrolled in Medicaid.

Certain characteristics of SUD treatment facilities were also associated with increases in Medicaid acceptance. In line with previous findings,²⁴ facilities that are owned by private non-profit or state government are more likely to accept Medicaid than privately owned for-profit facilities. In contrast, facilities that are not licensed and/or accredited are less likely to accept Medicaid, which is consistent with research conducted prior to federal parity.²⁴ Over the past decade, considerable efforts have been made to improve the organizational context and quality of SUD treatment facilities, and thereby improve SUD treatment access, retention, and outcomes.^{38,51–53} Yet, SUD treatment facilities today are mostly led by administrators with limited knowledge regarding parity.³⁸ Moreover, SUD treatment settings experience significant staff turnover^{54,55} and these settings generally operate on tight budgets with minimal administrative and infrastructure support.⁵⁶ These may be settings that simply lack the preparedness or capacity that is necessary to accept different insurance types. Finally, we find significant geographic variation across states in Medicaid acceptance among SUD treatment facilities. This finding is similar to previous studies,²³ and suggests that the ability of Medicare enrollees to access SUD treatment depends, in part, on where one lives. Taken together, these findings underscore the complex set of factors that operate at multiple levels to influence Medicaid acceptance. These findings also suggest that to increase Medicaid acceptance by SUD treatment facilities, we should better prepare the staff who work in these settings to implement parity and address inequities in the geographic distribution of Medicaid acceptance.

Findings must be considered within the context of several limitations. First, several changes to the policy environment occurred simultaneously and in a short time frame (e.g., parity, provisions of ACA), making it hard to determine whether effects were due to parity or other causes. To address this limitation, we limited the analysis to the 2002–2013 period and conducted a number of sensitivity analyses. We show that the Medicaid acceptance rate is larger in states that have higher Medicaid managed care penetration rates, in line with expectations that federal parity would have a stronger association with Medicaid acceptance when more plans in a state were subject to the new regulations. In the primary analyses, we include state fixed effects, which control for differences in state Medicaid regulations that vary across states but are consistent over time. We conduct additional sensitivity analyses to determine whether other changes in this time frame impact our results. We find that the associations are similar when including Medicaid-to-Medicare fee ratios, and that the results

do not appear to be driven by anticipation of Medicaid expansion in 2014. Additionally, we stratify our results by the restrictiveness of 2014 Medicaid benefits, we find broadly similar results, meaning that changes with parity are not likely to be entirely driven by differences in state regulations. These sensitivity analyses suggest that we are isolating the association of Medicaid acceptance with the implementation of MHPAEA. Second, due to data limitations, we were unable to examine whether changes in Medicaid acceptance after parity were limited to more facilities accepting Medicaid or whether those that already accepted Medicaid increased the amount and range of services to Medicaid beneficiaries. Also, we did not examine whether parity increased Medicaid acceptance within particular modalities of care. These two limitations constitute areas for future research.

As Medicaid coverage expands, it is critical to ensure there is adequate access to care for SUD, particularly for Medicaid enrollees.^{23,57–60} Future efforts to expand access to care for individuals with SUD should consider both demand and supply side factors, including insurance acceptance by SUD treatment facilities. Prior research has established that the Medicaid population encounters inordinate barriers to SUD treatment,^{5,16,20–22} with longer wait times.²³ Our findings suggest that mandating parity increased the number of SUD treatment providers who accept Medicaid. More broadly, our findings underscore how parity laws are critical policy tools for creating contexts that enable historically vulnerable and underserved populations with SUD to access needed healthcare.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1:

Changes in Medicaid acceptance over time by substance use disorder treatment facilities (2002–2013)

Notes: 95% confidence intervals calculated using standard errors adjusted for clustering at the state level shown. Sample size is 83,284 facility-year observations for main sample described in text. Controls include state fixed effects, indicators of ownership type, facility size indicators, located in a hospital, licensing status, accreditation status, and offering no charge or free treatment, an opioid treatment program, outpatient substance use services, residential (non-hospital) substance use services, hospital inpatient services, treatment in language other than English, and state characteristics (located in state with above median 2009 Medicaid managed care penetration, percent unemployed, percent Hispanic, percent Black, percent White, percent with SUD, percent with Medicaid, percent with Medicare, and total population).

Figure 2:

Percent of substance use treatment facilities accepting Medicaid by state (2013)

Notes: Sample size is 8,185 facilities for main sample as described in text. States with no data are those with early Medicaid expansion, which are excluded from the main sample.

Table 1:

Descriptive statistics for substance use disorder treatment facilities (2002–2013), by Medicaid acceptance

Mean (Standard Deviation) or %	Overall (N=83,284)	Facility Accepts Medicaid	
		Yes (N= 46,263)	No (N= 37,021)
Accepts Medicaid payments	55.5	100	0
Accepts private health insurance	65.9	78.5	50.3
Accepts Medicare payments	33.8	52.6	11.1
Offers no charge or free Tx	48.8	55.4	40.5
Ownership			
Private-for-profit organization	25.8	17.6	36
Private non-profit organization	61.2	67.7	53
State government	3.1	4.1	1.8
Local, county, or community government	6	7.4	4.2
Tribal government	1.4	1.8	0.9
Federal government	2.5	1.3	4.1
Located in/operated by hospital	12.9	15	10.2
Outpatient substance use services offered	77.3	83.4	69.6
Residential (non-hospital) substance abuse services offered	32.7	24.1	43.4
Hospital inpatient substance abuse services offered	7.6	9.1	5.7
Treatment in language other than English offered	40.5	47	32.4
Operate an Opioid Treatment Program	10.6	10.6	10.6
Licensed by state substance abuse, mental health, public health, or hospital authority	90.6	93.8	86.7
Accredited by JCAHO/CARF/NCQA/COA	49.7	57.8	39.5
State level characteristics			
Located in state with above median Medicaid	37.7	42.5	31.7
Managed Care penetration (2009)			
State level Medicaid-to-Medicare fee ratio	0.74 (0.18)	0.74 (0.19)	0.75 (0.17)
Total state population in millions	13.8(12.2)	11.1(10.1)	17.1(13.7)
Unemployment Rate	6.9(2.24)	6.9(2.2)	7.0 (2.4)
Percent of population that is Hispanic	15.8(13.4)	12.9(12.0)	19.5(14.1)
Percent of population that is Black	11.3(7.8)	11.4(7.6)	11.2(7.9)
Percent of population that is White	66.3 (16.4)	70.3 (15.0)	61.4(16.6)
Percent of population 12 years and older with Substance Use Disorder	8.9 (0.9)	8.9 (0.9)	8.9 (0.9)
Percent of population covered by Medicaid	14.7(3.5)	14.6 (3.5)	14.9(3.5)
Percent of population covered by Medicare	14.3(2.3)	14.6(2.2)	13.9(2.4)

Notes: All differences with the exception of operating an opioid treatment program are statistically significant with $p < 0.001$ based on t-test for continuous variables and chi-squared test for binary and categorical variables. Standard deviation in parentheses. Sample includes all facilities that provide SUD treatment, do not provide free treatment, do not have a DUI/DWI program, and are not located in states with early Medicaid expansion with complete information as described in the text. Missing data include 6,384 observations for free treatment, 1,400 observations for private health insurance acceptance, 1,764 observations for Medicare acceptance, and 1,644 observations for Medicaid-to-Medicare fee ratio.

Table 2:

Associations between Medicaid acceptance and introduction of federal parity law

	(1)	(2)
Federal Parity in Effect	0.0599 *** (0.0115)	0.0459 *** (0.0115)
Includes controls?	No	Yes
Number of observations	83,284	83,284

*** **Note:** indicates statistically significant at $p < 0.001$ level. Results from linear regression with standard errors adjusted for clustering at the state level. Column 1 does not include controls and includes the full analytic sample as described in the text. Column 2 includes controls and includes the full analytic sample as described in the text. Controls include state fixed effects, survey year, indicators of ownership type, facility size indicators, located in a hospital, licensing status, accreditation status, and offering no charge or free treatment, an opioid treatment program, outpatient substance abuse services, residential (non-hospital) substance abuse services, hospital inpatient services, treatment in language other than English, and state characteristics (located in state with above median 2009 Medicaid managed care penetration, percent unemployed, percent Hispanic, percent Black, percent White, percent with SUD, percent with Medicaid, percent with Medicare, and total population).