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Trends in insurance coverage and treatment among persons with opioid use disorders following the Affordable Care Act

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Abstract

Purpose—This short communication examines the impact of the Patient Protection and Affordable Care Act (PPACA) on insurance coverage and substance use treatment access among persons with opioid use disorders.

Methods—Data came from the 2010–2015 National Surveys on Drug Use and Health. Among persons with heroin and opioid pain-reliever use disorders, measures of insurance coverage and treatment access were compared before and after the implementation of major PPACA provisions that expanded access to insurance in 2014.

Results—The prevalence of uninsured persons among those with heroin use disorders declined dramatically following PPACA implementation (OR 0.59, 95% CI 0.39–0.89), largely due to an increase in the prevalence of Medicaid coverage (OR 1.96, 95% CI 1.21–3.18). There was no evidence of an increase in the prevalence of treatment, but among persons who received treatment, there was an increase in the proportion whose treatment was paid for by insurance (OR 3.75, 95% CI 2.13–3.18). By contrast, there was no evidence the uninsured rate declined among persons with pain-reliever use disorders.

Conclusions—The PPACA Medicaid expansion increased insurance coverage among persons with heroin use disorders, and likely plays an essential role in protecting the health and financial

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Contributors

Mr. Feder conducted analyses and drafted the manuscript. Drs. Mojtabai and Crum assisted in the analysis. Ms. Krawczyk assisted in literature review. All authors contributed to the development of the research question, planning of the analysis, and revising the manuscript. All authors have approved the final article.

Conflicts of Interest

The authors have no conflicts of interest to disclose.

security of this high-risk group. More research is needed on the relationship between insurance acquisition and utilization of substance use treatment.

Keywords

Affordable Care Act; opioids; Medicaid; substance use treatment

1. Introduction

The United States' is in the midst of an epidemic of opioid overdose deaths, driven by both prescription pain-relievers and illicit opioids like heroin (Kolodny et al., 2015). Expanding access to evidence-based treatment for opioid use disorders is essential to combatting the epidemic (Alexander et al., 2015). However, most people with opioid use disorders receive no evidence-based treatment (Jones et al., 2015). Among persons with substance use disorders seeking treatment, financial barriers are among the most commonly reported barriers to receiving needed care (Ali et al., 2017).

The 2010 Patient Protection and Affordable Care Act (PPACA) allowed states to expand Medicaid to childless adults with income less than 138 percent of the federal poverty line (FPL). The law also offered subsidies to help low- and middle-income people purchase private insurance. These changes may have helped reduce financial barriers to treatment for persons with opioid use disorders. One study found that the prevalence of uninsured decreased among persons with any substance use or mental health disorder in 2014 following the PPACA insurance expansion (Saloner et al., 2017). The present study examines insurance coverage and treatment access among persons with opioid use disorders, who may differ from the larger population of persons with substance use disorders. Findings offer context, as the United States considers how future reforms to the PPACA may impact the opioid epidemic.

2. Methods

2.1 Data

This study utilized data from the 2010 through 2015 National Surveys of Drug Use and Health (NSDUH). NSDUH is an annual, probability sampled, cross-sectional, nationally representative survey of United States households conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). Approximately 70,000 persons were interviewed each year about substance use behaviors, substance use treatment, and other characteristics related to substance use (HHS, n.d.).

2.2 Measures

Substance use disorders were identified by the NSDUH with a diagnostic algorithm following DSM-IV. In this study, "substance use disorder" was operationalized as meeting the DSM-IV criteria for either abuse or dependence of a particular drug. Data from persons with a heroin use disorder were analyzed separately from persons with a pain-reliever use disorder but no heroin use disorder. For comparison, we also examined persons who met

criteria for an alcohol use disorder but did not meet criteria for either of the two opioid use disorders.

We examined four self-reported measures of insurance coverage: no insurance coverage at the time of survey (uninsured), insured by Medicaid, insured by private insurance, and insured by Medicare. We assessed any self-reported substance use treatment utilization in the past year as well as the prevalence of self-reported treatment utilization in six specific treatment settings — hospital, inpatient rehabilitation, outpatient rehabilitation, mental health center, emergency department, and self help group. To explore barriers to care, we examined the proportion of people who reported that lack of insurance coverage was the primary reason for not receiving any care or less care than needed. Among persons who received treatment, we also assessed whether persons reported that insurance paid for their treatment.

2.3 Analysis

Analyses were restricted to persons age 18–64. To begin, we examined the proportion of survey respondents in each substance use disorder group who reported no children in their household and income below 200 percent of the federal poverty line (200% FPL). Since the PPACA targeted low-income childless adults, this is the group for whom the law likely serves as an important safety net.

For the main analysis, in each group, the prevalence of the outcomes described above before the PPACA insurance expansion in 2010–2013 were compared to the period after implementation of the PPACA insurance expansion using logistic regression. The post-PPACA period for persons with heroin or alcohol use disorders included data from 2014 and 2015. However, the NSDUH pain-reliever module was modified in 2015 and was thus not comparable to prior years; for this reason, the post-PPACA period included only 2014 for persons with pain-reliever use disorders.

Finally, we examined the association between being uninsured and receiving substance use treatment. We tested whether this association differed before and after PPACA implementation by allowing for an interaction between insurance status and time period, to aid interpretation of changes in treatment utilization over time.

Unadjusted models were supplemented by models adjusted for potential confounding by age, sex, and race/ethnicity. Statistical significance was assessed at the $p < 0.05$ level. Survey weighting and design elements were used, so estimates should be considered representative of the United States population. All analyses were performed in R 3.3.1.

3. Results

During the five years examined, nearly a quarter (24.9%, 95% CI 20.0–29.7) of adults with a heroin use disorder were low-income and childless. Persons with a pain-reliever use disorder (16.9%, 95% CI 14.6–19.0) or alcohol use disorder (14.7%, 95% CI 13.9–15.4) were less likely to be low-income and childless.

Among persons with heroin use disorder, the odds of being uninsured decreased by forty percent (OR 0.59, 95% CI 0.39–0.89) comparing years prior to and after the PPACA. This effect was strengthened after adjusting for age, race, and sex (aOR 0.49, 95% CI 0.33–0.74). This was due to a large increase in the proportion of persons covered by Medicaid (OR 1.96, 95% CI 1.21–3.18; aOR 2.33, 95% CI 1.42–3.83). Further, among persons who reported receiving care in the past year, the proportion whose care was paid for by insurance increased substantially (OR 3.75, 95% CI 2.13–6.58; aOR 3.62, 95% CI 2.00–6.56).

Despite the observed decline in uninsured rate, there was no evidence that substance use treatment utilization increased overall among persons with heroin use disorder following PPACA implementation. This was true across all treatment settings examined (results not shown). There was also no evidence of a decline in the proportion of people who reported receiving no or less care than needed because of lack of insurance coverage. In the years prior to PPACA implementation, uninsured persons with heroin use disorder had about half the odds of receiving substance use treatment than insured persons with a heroin use disorder (OR 0.52, 95% CI 0.31–0.87; aOR 0.47, 95% CI 0.29–0.78). This gap between insured and uninsured may have widened in the years following PPACA implementation to the point where uninsured persons had less than one third the odds than their insured counterparts of receiving receiving substance use treatment (OR 0.32, 95% CU 0.15–0.68; aOR 0.30, 95% CI 0.14–0.65), although this widening was not statistically significant in either unadjusted or adjusted models ($t = -1.06$, $df = 97$, $p = 0.29$; $t = -0.94$, $df = 90$, $p = 0.35$).

In contrast to persons with heroin use disorders, there was no evidence of a decline in the odds of being uninsured among persons with pain-reliever use disorders. Among persons with alcohol use disorders, the odds of being uninsured declined (OR .68, 95% CI 0.60–0.77; aOR 0.66, 95% CI 0.59–0.75), and the odds of being covered by Medicaid increased (OR 1.52, 95% CI 1.33–1.75; aOR 1.47, 95% CI 1.27–1.70), but the magnitude of change was smaller than the change among people with heroin use disorders. There was no change in the odds of receiving treatment. All model results are shown in Table 2.

4. Discussion

Nearly one quarter of individuals with a heroin use disorder had no children and had household income less than 200% FPL. Given that Medicaid mostly did not cover childless adults before the PPACA, many persons with heroin use disorders likely became eligible for Medicaid coverage after PPACA implementation in 2014, making that expansion a particularly important safety net for this population. Indeed, our results indicate that the PPACA appears to have substantially reduced the prevalence of persons without insurance for this group, primarily by expanding Medicaid. Consistent with other research, we find the law also substantially increased the proportion of treated persons whose treatment was paid for by insurance (Office of the Assistant Secretary, 2017). Other research shows acquiring Medicaid improves mental health and reduces financial problems related to medical bills (Baicker et al., 2013). Thus, we would expect the changes we observed in insurance coverage following PPACA implementation to improve the mental health and financial solvency of persons with heroin use disorders.

We detected smaller reductions in the proportion of uninsured persons and smaller increases in Medicaid among persons with alcohol use disorder. No changes were detected among persons with a pain-reliever use disorder. The latter may in part reflect the limitation that 2015 data on pain-reliever use disorders could not be included because of changes to the NSDUH. There may be a lag in the impact of the law on insurance coverage. However, the observed differences between persons with heroin and alcohol use disorder emphasize the importance of differentiating between types of substance use disorders in services research. Alcohol use disorders were more than 20 times as common as heroin use disorders, so analyzing trends for all substance use disorders together may obscure effects among persons with other use disorders besides alcohol.

Past research on other Medicaid expansions found that expansions are indeed associated with reductions in unmet need for substance use treatment (Wen et al., 2015). However, we did not detect any change in substance use treatment utilization among persons with heroin use disorders following PPACA implementation, even as the prevalence of uninsured declined substantially. Instead, we found that while insured persons were much more likely than uninsured persons to receive treatment prior to PPACA implementation, this gap may have widened following PPACA implementation. One possible explanation for this widening gap is that state and local governments — historically the largest funding source for substance use treatment services (Barry and Huskamp, 2011) — may be choosing to eliminate funding for substance use treatment services not paid for by insurance in response to the PPACA insurance expansion, undercutting the benefits of the law by reducing access for persons who remain uninsured. A shortage of program openings is also an important reason both insured and uninsured individuals do not receive necessary substance use treatment (Ali et al., 2017). Increases in the number of people with opioid use disorder have not been matched by increases in the number of providers equipped to provide evidence-based opioid use disorder treatment (Jones et al., 2015). Our findings suggest that states must do more to actively facilitate access to treatment for both insured and uninsured persons.

This study has several limitations. First, state-level data were not available. Future research should compare states that did and did not choose to expand Medicaid to better isolate the effects of the Medicaid expansion. Second, 2015 data on opioid pain-relievers were not available because of changes to the survey. Third, the publicly available NSDUH offers variables indicating whether a respondent had income below 100% and 200% of FPL, but not 138%, which is the cutoff for eligibility under the PPACA. Finally, changes observed over time may be confounded by other unmeasured secular trends in service use. Notably, the prevalence of heroin use disorders in the United States increased over the study period. This expanded population of persons with heroin use disorder may differ in their treatment utilization behaviors from the smaller population of persons with disorder in prior years. Longitudinal studies will be essential to better understand the role health insurance plays in facilitating substance use treatment access.

5. Conclusions

The findings presented here provide evidence that the PPACA Medicaid expansion has substantially increased insurance coverage among persons with heroin use disorders, more so than among persons with other more common substance use disorders. This expansion of insurance coverage, along with dedicated efforts to expand access to evidence-based treatment, can play a critical role in reducing the harms of the United States' opioid epidemic. Congress should ensure that any reform to the PPACA does not cause persons with opioid use disorders to lose health insurance. Insurance loss could increase financial hardship, further limit access to needed medical care, and worsen the outcomes of the ongoing epidemic. Finally, a substantial proportion of persons with opioid use disorders remain uninsured, and states must facilitate access to services for this population.

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Highlights

- The United States (US) is in the midst of an epidemic of opioid overdose deaths
- The Patient Protection and Affordable Care Act (ACA) expanded Medicaid to low-income childless adults formerly ineligible for insurance
- After the ACA, rates of uninsured persons with heroin disorders fell
- Among persons with heroin disorders in treatment, payment by insurance increased
- There was no change in the overall rate of treatment

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Table 1

Demographics of U.S. Residents 18–64 with Heroin, Pain-Reliever, and Alcohol Use Disorders, 2010–2015

	Heroin Use Disorder (n = 774)		**Pain-Reliever Use Disorder (n = 1,926)**		**Alcohol Use Disorder (n = 21,791)**	
	2010–2013	**2014–2015**	**2010–2013**	**2014***	**2010–2013**	**2014–2015**
Past-Year Prevalence **	0.2%	0.3%	0.9%	0.8%	8.2%	7.6%
Gender						
Male	70.2%	70.8%	58.3%	53.9%	65.1%	64.1%
Female	29.8%	29.2%	41.7%	46.1%	34.9%	35.9%
Age Group						
18–25	36.7%	28.4%	**33.8%**	**23.9%**	**31.1%**	**27.3%**
26–34	34.4%	44.5%	**29.6%**	**30.2%**	**25.2%**	**24.5%**
35–49	19.1%	21.2%	**22.7%**	**21.3%**	**27.2%**	**27.6%**
50–64	9.9%	6.0%	**14.0%**	**24.5%**	**16.4%**	**20.7%**
Race/Ethnicity						
White	79.1%	72.3%	**71.7%**	**69.1%**	**67.6%**	**63.9%**
Black	7.4%	7.5%	**8.5%**	**13.8%**	**10.4%**	**11.3%**
Hispanic	10.4%	17.9%	**14.5%**	**8.1%**	**16.6%**	**18.2%**
Other	3.1%	2.2%	**5.3%**	**9.0%**	**5.4%**	**6.6%**

*Pain-reliever use disorder assessments from 2015 are not comparable to prior years.

**As a percentage of U.S. population age 18–65.

Bolded demographics were significantly different comparing pre-PPACA to post-PPACA.

Table 2

Changes in Insurance Coverage and Substance Use Treatment following PPACA Insurance Expansion

	Pre-PPACA Prevalence (per 100)	Post-PPACA* Prevalence (per 100)	Crude Odds Ratio	Adjusted Odds Ratio**
Heroin Use Disorder				
Uninsured	40 [33 – 47]	28 [22 – 34]	**0.59 [0.39 – 0.89]**	**0.49 [0.33 – 0.74]**
Medicaid	22 [16 – 27]	36 [27 – 44]	**1.96 [1.21 – 3.18]**	**2.33 [1.42 – 3.83]**
Private Insurance	28 [23 – 34]	31 [25 – 38]	1.15 [0.77 – 1.73]	1.4 [0.89 – 2.19]
Medicare	7 [3 – 12]	3 [1 – 6]	0.43 [0.15 – 1.22]	0.4 [0.13 – 1.19]
Received Past-Year Substance Use Treatment	57 [51 – 64]	50 [42 – 58]	0.76 [0.49 – 1.16]	0.75 [0.48 – 1.16]
No Insurance was Barrier to Treatment	12 [8 – 17]	9 [4 – 15]	0.72 [0.33 – 1.56]	0.65 [0.3 – 1.4]
Substance Use Treatment Paid by Insurance***	24 [18 – 31]	55 [44 – 65]	**3.75 [2.13 – 6.58]**	**3.62 [2 – 6.56]**
Pain-Reliever Use Disorder				
Uninsured	30 [25 – 34]	27 [20 – 34]	0.9 [0.6 – 1.33]	1.03 [0.68 – 1.54]
Medicaid	23 [19 – 27]	26 [20 – 32]	1.18 [0.8 – 1.74]	1.04 [0.69 – 1.57]
Private Insurance	41 [36 – 45]	39 [34 – 45]	0.94 [0.7 – 1.27]	0.99 [0.71 – 1.38]
Medicare	7 [4 – 10]	9 [5 – 13]	1.31 [0.66 – 2.62]	0.89 [0.39 – 2.03]
Past-Year Substance Use Treatment	22 [19 – 26]	23 [18 – 28]	1.06 [0.74 – 1.52]	1.04 [0.7 – 1.55]
No Insurance was Barrier to Treatment	6 [4 – 9]	2 [0 – 4]	**0.34 [0.13 – 0.89]**	0.37 [0.13 – 1.06]
Substance Use Treatment Paid by Insurance	45 [36 – 54]	40 [23 – 57]	0.84 [0.38 – 1.85]	0.95 [0.42 – 2.13]
Alcohol Use Disorder				
Uninsured	25 [24 – 26]	18 [17 – 20]	**0.68 [0.6 – 0.77]**	**0.66 [0.59 – 0.75]**
Medicaid	9 [9 – 10]	14 [12 – 15]	**1.52 [1.33 – 1.75]**	**1.47 [1.27 – 1.7]**
Private Insurance	60 [59 – 62]	62 [60 – 64]	1.08 [0.98 – 1.19]	**1.13 [1.02 – 1.24]**
Medicare	3 [2 – 3]	3 [2 – 3]	1.02 [0.78 – 1.34]	0.91 [0.68 – 1.21]
Past-Year Substance Use Treatment	8 [7 – 9]	7 [6 – 8]	0.91 [0.77 – 1.09]	0.9 [0.75 – 1.07]
No Insurance was Barrier to Treatment	1 [1 – 2]	1 [1 – 1]	0.72 [0.5 – 1.02]	**0.7 [0.5 – 0.99]**
Substance Use Treatment Paid by Insurance	30 [25 – 34]	37 [30 – 43]	1.37 [0.94 – 1.99]	1.36 [0.94 – 1.96]

* Includes 2014–2015 for heroin, alcohol use disorders, 2014 only for pain-reliever disorders

** Adjusted for age, gender, race/ethnicity

*** Among persons who received any treatment.

Odds rations significant at the p<.05 level are bolded