U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

USE OF MEDICATION-ASSISTED TREATMENT FOR OPIOID USE DISORDERS IN EMPLOYER-SPONSORED HEALTH INSURANCE:

OUT-OF-POCKET COSTS

February 2019

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This report was prepared under contract #HHSP233201600023I between HHS's ASPE/DALTCP and Truven Health Analytics. For additional information about this subject, you can visit the DALTCP home page at https://aspe.hhs.gov/office-disability-aging-and-long-term-care-policy-daltcp or contact the ASPE Project Officers, Laurel Fuller and D.E.B. Potter, at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201; Laurel.Fuller@hhs.gov.

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Use of Medication-Assisted Treatment For Opioid Use Disorders in Employer-Sponsored Health Insurance

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Optional Task Report

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ABSTRACT

This project assessed changes in the amount paid for medication-assisted treatment for opioid use disorder (OUD) across 2 years, 2007 and 2014, and projected the changes to 2018. These years were chosen because they include periods before and after implementation of federal legislation designed to increase access to general health care and behavioral health care, and they encompass a time when new medications to treat OUD were introduced. We used the Truven Health MarketScan® Commercial Claims and Encounters Database of private employer-sponsored health plans (enrollees aged 12-64 years). We also used data from the Kaiser Employer Health Benefits Survey and coverage trends from the Brandeis Health Plan Surveys. Using recommendations from the American Society of Addiction Medicine[1] and the Substance Abuse and Mental Health Services Administration,[2] we approximated the ideal treatment protocol for a typical individual with OUD, then approximated the total payments to physicians (combined insurance and out-of-pocket) to deliver that protocol. We found that the total payments for the ideal protocol rose from $5,927 to $6,886 based on the median price paid for each component. We found that the payments for nearly all types of OUD treatment services rose between 2007 and 2014, except for the payments for psychotherapy provided by psychiatrists or other physicians--a service for which the codes used for billing changed during the period under investigation making comparability difficult. The increase in the median payment for all other services, with the exception of outpatient detoxification, was greater than the increase in inflation during the study period. We also explored changes at the plan type level, and found that in 2014 a greater share of individuals with OUD were enrolled in plans with higher deductibles than in 2007, which would increase the out-of-pocket expenses experienced by those individuals. This increased out-of-pocket burden on patients may act as a barrier to optimal service utilization for individuals with OUD.

[1] American Society of Addiction Medicine. The National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use. June 2015. https://www.asam.org/docs/default-source/practice-support/guidelines-and-consensus-docs/asam-national-practice-guideline-supplement.pdf?sfvrsn=24.

[2] Center for Substance Abuse Treatment. Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction. 4 Treatment Protocols. Treatment Improvement Protocol (TIP) Series, No. 40. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2004. https://www.ncbi.nlm.nih.gov/books/NBK64246/.

ACRONYMS

The following acronyms are mentioned in this report and/or appendices.

ASAM	American Society of Addiction Medicine
BH	Behavioral Health
BLS	Bureau of Labor Statistics
CCAE	Commercial Claims and Encounters
CDHP	Consumer-Directed Health Plan
CPI	Consumer Price Index
CPT	Current Procedural Terminology
CSAT	SAMHSA Center for Substance Abuse Treatment
DX	Diagnosis code
ED	Emergency Department
EMTALA	Emergency Medical Treatment and Labor Act
FDA	Food and Drug Administration
FIL	Buccal Film
FQHC	Federally Qualified Health Center
GER	Gluteal Extended Release
HDHP	High-Deductible Health Plan
HMO	Health Maintenance Organization
ICD-9	International Classification of Diseases, Ninth Revision
ICD-10	International Classification of Diseases, Tenth Revision
IM	Intramuscular
KEHB	Kaiser Employer Health Benefits Survey
MAT	Medication-Assisted Treatment
MM	Mucous Membrane
N/A	Not Available
NDC	National Drug Code
NSD	Not Sufficient Data
OR	Odds Ratio
OUD	Opioid Use Disorder

POS	Point of Service
PPO	Preferred Provider Organization
Rev	Revenue code
RHC	Rural Health Clinic
Rx	Prescription fill
SAMHSA	Substance Abuse and Mental Health Services Administration
SD	Standard Deviation
SL	Sublingual
SUD	Substance Use Disorder
TAB	Tablet
TMS	Transcranial Magnetic Stimulation
Tx	Treatment code

EXECUTIVE SUMMARY

Introduction

Out-of-pocket expenditures--the amount of money that patients are responsible for paying for their health care--are often a barrier to treatment for individuals with substance use disorders (SUDs).[3] The expenditures can include cost-sharing, which the U.S. Department of Health and Human Services website Healthcare.gov defines as "the share of costs covered by your insurance that you pay out of your own pocket. This term generally includes deductibles, co-insurance, and co-payments, or similar charges."[4] Out-of-pocket expenditures also include the amount paid for services for which an individual's insurance does not provide coverage, which would be all services for individuals with no insurance.

Our analysis estimated the typical components of out-of-pocket expenses experienced by individuals who receive medication-assisted treatment (MAT) for opioid use disorder (OUD) and are enrolled in one of the three most common types of insurance plans. Additionally, to help provide a fuller picture of the expenses individuals incur, we included the average premium and contributions associated with those plan types. The out-of-pocket expenses are calculated and premiums and contributions are identified for 2007 and 2014. The premiums and contributions then were projected for 2018, and the out-of-pocket expenses were evaluated for the projection.

We selected the years 2007 and 2014 because they represent timepoints before and after the implementation of two laws with provisions intended to improve coverage for SUD treatment. Existing research shows that these laws increased the proportion of plans that offer any coverage for OUD services.[5] However, less research has focused on the extent to which these laws influenced out-of-pocket expenditures from patients. The projected year of 2018 is in the near future, but it allows enough time for key aspects of the major legislation that was passed to be implemented. These projections trend 2014 data forward but do not account for changes such as new federal regulations or changes in recommended treatment that may occur in the interim.

Objectives

This optional component of the project is a supplement to the main task report and summarizes the out-of-pocket expenses faced by individuals with OUD by type (deductible, co-payment, co-insurance) for an individual receiving a standard, guideline-concordant episode of MAT treatment. We compared these changes to benchmarks for inflation and wage growths to understand whether insured individuals faced higher expenses over time. This report includes data tables for the years mentioned, including projections for the future.

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[3] Mojtabai R, Chen LY, Kaufmann CN, Crum RM. Comparing barriers to mental health treatment and substance use disorder treatment among individuals with comorbid major depression and substance use disorders. Journal of Substance Abuse Treatment. 2014; 46(2): 268-273.

[4] HealthCare.gov. Cost sharing. https://www.healthcare.gov/glossary/cost-sharing/.

[5] Reif S, Creedon TB, Horgan CM, et al. Commercial health plan coverage of selected treatments for opioid use disorders from 2003 to 2014. Journal of Psychoactive Drugs. 2017; 49(2): 1-9.

Methods

Data. We used data from the Truven Health MarketScan® Commercial Claims and Encounters (CCAE) Research Database for calendar years 2007 and 2014. The MarketScan CCAE Database contains private insurance claims from approximately 150 large employers for employees, their dependents, and early retirees. It is the largest commercial convenience sample in the United States.

Study population. We included private employer-sponsored health plan members, which encompassed employees, spouses, and dependents aged 12-64 years. We excluded enrollees younger than 12 years because of the low prevalence of OUD and enrollees older than 64 years because of Medicare eligibility and the possibility of having secondary insurance. We required at least 10 out of 12 months of enrollment in each calendar year to capture a complete or nearly complete treatment picture for each individual. We excluded plans (and all of their enrollees) that lacked prescription drug claims because of the importance of having complete service records for each enrollee and the need to capture use of MAT. We subdivided our analysis into four plan types and then created a separate all-plan category. The four plan types were health maintenance organizations (HMOs), preferred provider organizations, point of service (POS) plans, and a combined group of consumer-directed health plans and high-deductible health plans (CDHP/HDHP). We excluded claims covered by capitated plans that did not include reimbursement information.

Study periods. This study assessed changes in the levels and types of out-of-pocket expenses for patients receiving OUD treatment paid by employer-sponsored health insurance plans at two points in time--one before (calendar year 2007, i.e., Time 1) and one after (calendar year 2014, i.e., Time 2) implementation of major federal legislation enacted to increase insurance coverage and expand access to coverage of behavioral health care. We also used the results of our Time 2 analysis to inform estimates of projected out-of-pocket costs in 2018.

Analytic file. Our analytic file was constructed at the claims level to allow us to report on utilization and spending in aggregate for each category of plan we considered, as well as at the individual level. We used source claims-level analytic files, which included all inpatient admissions, outpatient services, and prescription drug fills. We categorized the individual claims records to create service categories and to construct the financial variables. The summary spending variables totaled the amount paid for a service, which included the insurer payment and beneficiary out-of-pocket expense.

Variable definitions. We constructed variables to identify individuals with an OUD, to characterize the sample and health plans, and to define service types. Below we describe how we defined each of these variables.

- *Opioid use disorder*. The analytic data files included members with an OUD, defined as either having an OUD diagnosis or receiving OUD treatment, presuming that individuals receiving treatment qualified for an OUD diagnosis even if the diagnostic code was missing from the claims record. Specifically, individuals were classified as having an OUD and included in the analytic files if they: (1) had two or more outpatient visits on different days or one inpatient stay with an OUD diagnosis in any claims field; (2) had a MAT prescription fill; or (3) had a MAT administration procedure code for buprenorphine/naloxone, naltrexone, or methadone.

- *Enrollee and plan characteristics*. The analytic files included member age, sex, relationship to insured (employee, spouse, or dependent), and physical and behavioral health conditions. They also included the number of months enrolled and health plan type. We also included information on the type of health insurance plan for the four primary plan categories defined above.

- *Service categories*. We classified all OUD treatment services into specific service categories using Current Procedural Terminology codes, revenue codes, Healthcare Common Procedure Coding System codes, prescription drug National Drug Codes, and codes to identify the place of service (e.g., physician's office). We defined the following service categories: inpatient treatment (including detoxification), outpatient detoxification, residential services, intensive outpatient or partial hospitalization services, emergency department visits, outpatient physician office visits, and psychotherapy. Use of MAT was captured through the prescription claims codes for buprenorphine and buprenorphine/naloxone.

- *Utilization*. We created variables for the frequency of use for each of the OUD-related services considered within each of the four plan categories specified above, as well as across all insurance plan categories for which an individual had a diagnosed OUD.

- *Financial variables.* From health expenses, defined below, we computed variables to reflect insurer and individual spending. This included the mean and median of expenditures for each category of services. The variables included total provider payment, co-payment amount, co-insurance rate, and whether the service was delivered in or out of the insurance plan's provider network. We also considered premium and deductible data from the Kaiser Employee Health Benefits Survey and plan coverage from the Brandeis Health Plan Surveys.

Types of health expenses. We considered many types of expenses that are related to health care for individuals with OUD. First, we considered the price paid for services. This price includes the amount paid by the insurer and the out-of-pocket expenses experienced by the plan beneficiary, including co-insurance and co-payments. These results were calculated using data from the MarketScan CCAE Database. Second, we considered the price of insurance (i.e., premium) and the plan deductibles. These data were collected from the Kaiser Employee Health Benefit Survey. We specifically considered the portion of the plan premium that employees were responsible for paying. Lastly, we considered changes in plan coverage over time using data from the Brandeis Health Plan Survey.

Analytical approach. We calculated the amount paid per service using the median total payment, combining insurer and beneficiary payments. This was done at the claims level across all insurance plan types, and then separately for each individual plan type. We calculated the co-payments charged for each service by calculating the mean co-payment charged for all services, as well as the median co-payment charged for services which charged any co-payment. We also considered trends in the proportion of services with any co-payment charged between 2007 and 2014. We calculated the mean co-insurance rate for each service, and the median co-insurance rate when any co-insurance was charged. As with co-payments, we evaluated whether there was a change in the proportion of services with any co-insurance charged over time. To calculate the payments for services not paid for by insurance, we considered median amount paid for each service when the service was provided outside of a beneficiary's insurance network. We estimated the impact of lack of coverage on the average patient by using data on the proportion of health plans that did not provide coverage for specific OUD

services from the Brandeis Health Plan Survey. Based upon Time 2 total payments, co-payments, and out-of-network payments we projected results to future years using appropriate health sector specific adjustment factors from the Bureau of Labor Statistics.
Results

Using recommendations from the American Society of Addiction Medicine[6] and the Substance Abuse and Mental Health Services Administration,[7] we approximated the ideal treatment protocol for a typical individual with OUD as 18 physician office visits, 15 psychotherapy visits, and 12 monthly buprenorphine prescription fills. The amount paid for this bundle increased from $5,927 to $6,886 based on the median price paid for each component. This corresponded to a 2.2 percent annual increase on average, which was slightly above the average rate of inflation of 1.9 percent during that period. Moreover, there was a large increase in average plan deductibles and the proportion of premiums paid by employees during the study period. This resulted in patients experiencing larger amounts of health care costs before their insurance benefits took effect. The combination of the average deductible payment and the employee's share of the premium increased at rates ranging from 10.3 percent per year for individuals enrolled in HMOs to 4.8 percent per year for individuals enrolled in CDHPs/HDHPs. However, CDHPs/HDHPs had the highest baseline level of premiums and deductibles, and therefore they remained the most expensive for patients that reached the deductible during both study periods. Moreover, there was significant movement in our sample toward CDHP/HDHP insurance.

We found that even with higher deductibles, patients with OUD still experience significant levels of co-insurance, which may reflect that costs of care for individuals with OUD often exceed the deductible. In fact, we found that the mean level of co-insurance paid per unit of service for the most common opioid treatment services increased during the study period from 5 percent to 6 percent per visit for psychotherapy and from 1 percent to nearly 3 percent per buprenorphine prescription fill.

The levels of co-payments for services did not increase dramatically during our study period, which reflects the fact that other forms of cost-sharing have replaced co-payments in shifting service costs from insurers to patients. The mean payment for an office visit decreased from $13 to $11, and the mean payment for a buprenorphine/naloxone prescription fill decreased from $33 to $27. These results indicate that co-payments had less of an impact on patient expenditures over time relative to the growth in deductibles and co-insurance.

Results from the Brandeis Health Plan Survey indicated that insurance coverage for buprenorphine expanded dramatically during the period considered, particularly among POS and HMO health plans. Because of the high cost of buprenorphine for individuals without insurance coverage, this represents a massive out-of-pocket expense to patients that has been mitigated since legislation has changed.

[6] American Society of Addiction Medicine. The National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use. June 2015. https://www.asam.org/docs/default-source/practice-support/guidelines-and-consensus-docs/asam-national-practice-guideline-supplement.pdf?sfvrsn=24.

[7] Center for Substance Abuse Treatment. Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction. 4 Treatment Protocols. (Treatment Improvement Protocol (TIP) Series, No. 40.) Rockville, MD: Substance Abuse and Mental Health Services Administration; 2004. https://www.ncbi.nlm.nih.gov/books/NBK64246/.

Directions for Future Research

Our main task results revealed that the growth in the population with OUD exceeded the rate of growth in the number of individuals that use MAT treatment services, which may indicate that the expenses are deterring use. We have added to the literature on the cost of treatment for individuals receiving treatment for OUD, but additional research is needed to understand how much money individuals are willing to pay for OUD services. It is possible that individuals are more willing to pay for OUD treatment services now than in the past because the characteristics of the populations receiving treatment have changed or because the perceived value of treatment has risen. It is also important to consider the role of Medicaid in service use over time.