Removal of prior authorization for medication-assisted treatment: impact on opioid use and policy implications in a Medicare Advantage population

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What is already known about this subject

- An estimated 30.9% of individuals with Medicare coverage and 43.5% of individuals dually eligible for both Medicare and Medicaid received opioid prescriptions in 2015.
- Medication-assisted treatment (MAT) improves retention in opioid use disorder (OUD) treatment, reduces relapse risk, and ameliorates withdrawal symptoms.
- Medication-assisted treatment is considered the gold standard for treatment of OUD.

What this study adds

- Patients initiating MAT therapy after removing prior authorization requirements has reduced relapse to opioid use rates.
- The presence of a confirmed OUD diagnosis is associated with an almost 50% reduced odds of relapse.

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ABSTRACT

BACKGROUND: More than 30% of Medicare beneficiaries and 40% of patients dually eligible for Medicare and Medicaid use opioids. With an estimated 8%-12% of patients developing an opioid use disorder (OUD) after initiating opioids, opioid misuse is a significant public health challenge, especially among high-risk Medicare populations. Medication-assisted treatment (MAT) is the use of medications for the treatment of OUD and to prevent relapse to opioid use. MAT is the most effective treatment for OUD. There are a variety of barriers to MAT therapy that may delay access to treatment.

OBJECTIVE: To study the impact of the removal of prior authorization requirements for MAT medications on MAT utilization,

opioid utilization, and clinical outcomes, including emergency department visits, inpatient admission, relapse rates, behavioral health services, and nonopioid pain medication utilization, among opioid-using individuals with Medicare Advantage Prescription Drug (MAPD) coverage.

METHODS: This retrospective, cross-sectional study used administrative medical, pharmacy, and enrollment data to identify chronic opioid users and a subset cohort initiating MAT use in 2017, when prior authorization requirements were in effect, and 2018 after removal of prior authorization requirements. Opioid and MAT utilization and clinical outcomes from emergency department visits were also examined before and after prior authorization requirements. A logistic regression analysis was conducted to examine the

impact of the policy change on relapse rates, comparing relapse rates in 2017 and 2018, after controlling for potentially confounding demographic and clinical factors.

RESULTS: This policy change was followed by a decrease in opioid utilization, an increase in MAT initiation, and a 4% decline in relapse rates. Patients initiating MAT after removal of prior authorizations had a 19% decrease in likelihood of relapse, and those with an OUD diagnosis were 47% less likely to relapse. The majority of MAT recipients were aged younger than 65 years, had a mental or behavioral health disorder diagnosis, and initially used relatively low doses (<90 MME) of prescription opioids. There were no statistically significant differences in the use of behavioral health services or the use of nonopioid medications from 2017 to 2018.

CONCLUSIONS: Utilization management policies should ensure appropriate MAT use, while minimizing impediments to access. Providing patients with evidence-based therapy effective for the treatment of OUD is essential to patient recovery and combating the consequences of the opioid epidemic. Further strides are needed to eliminate additional obstacles to OUD care.

The United States is facing an unprecedented opioid epidemic with alarming rates of misuse and overdose deaths. In 2017, 11.4 million Americans reported misuse of opioids within the previous year, and 47,600 opioid-related drug overdose deaths were reported, which on average is the equivalent of 130 American deaths per day.^{1,2} One of the greatest contributing factors to these overwhelming statistics is the highly addictive nature of opioids. Current estimates indicate that among patients who are prescribed opioids for chronic pain, 21%-29% misuse them, and 8%-12% become addicted.³ While this represents a broad challenge for public health, the implications for the Medicare population are substantial, given the number of individuals who take opioids. An estimated 30.9% of individuals with Medicare coverage and 43.5% of individuals dually eligible for Medicare and Medicaid received opioid prescriptions in 2015.⁴ With upwards of 12% of Medicare fee-for-service beneficiaries at risk for developing opioid misuse or abuse and annual costs for Medicare opioid abusers in excess of almost \$25,000 greater than among nonabusers, the public health and financial implications for the Medicare population are substantial.^{5,6} Medicare Advantage organizations have a unique opportunity to address this critical public health issue at a population-based level.

A key component to combatting the opioid epidemic is screening for, diagnosing, and appropriately treating opioid use disorders (OUD), which is characterized by a problematic pattern of opioid use leading to clinically significant impairment or distress. It is estimated that as of 2016, 2.1 million Americans were diagnosed with an OUD; however, this figure likely represents serious underreporting due to a number of barriers to assessment and diagnosis, including provider and patient stigma.⁷

Medication-assisted treatment (MAT), which is often the use of medications in conjunction with counseling and behavioral therapies, is considered the gold standard for treatment of OUD.^{8,9} MAT therapies, such as buprenorphine-naloxone and naltrexone products, help relieve symptoms of opioid withdrawal and physiological cravings. The unique pharmacological properties of buprenorphine and naltrexone help prevent relapse by blocking the euphoric

and sedative effects produced by using opioids.⁸ MAT has been shown to improve retention in OUD treatment, reduces relapse risk, ameliorates withdrawal symptoms, and reduces utilization of health care resources associated with opioid-dependence, such as emergency department (ED) visits.¹⁰⁻¹⁴ For patients who remain in treatment, MAT reduces overdose rates and mortality significantly, providing additional motivation for health plans to improve access to MAT through their drug management programs.

While use of MAT has proven effective in the treatment of OUD, in recent years prescribing rates of MAT have been suboptimal even among physicians who have been trained to prescribe buprenorphine, with only 28%-35% of trained physicians prescribing MAT medications.¹⁵⁻¹⁸ This finding is particularly relevant for patients covered by Medicare, given that this population has a fast growing rate of OUD diagnosis.⁵ Physician surveys have revealed a variety of barriers to providing MAT, with prior authorization requirements for prescribing MAT one of the more commonly reported barriers.^{15,19-21} Prior authorization responses can occur the same day as the request and up to 14 days based on time limits enforced by the Centers for Medicare & Medicaid Services.²² Use of prior authorization for MAT drugs by stand-alone Medicare Part D and Medicare Advantage Prescription Drug (MAPD) plans has been declining in recent years, but the consequences of these changes have not been evaluated.

As part of an overall strategy to combat OUD and improve the care of patients dependent on opioids, Humana, a national health and wellness organization representing close to 4 million Medicare Advantage participants in 2018, removed the prior authorization requirements for MAT drugs. This policy change was implemented to reduce barriers to accessing MAT and increase use among Medicare patients, along with other internal Humana initiatives, such as patient and provider educational programs and expanded access to nonpharmaceutical pain management therapies.

Before March 2018, MAT prescriptions required a prior authorization, which were renewed in 6-month intervals, of which demonstration was required that the product was being used for the treatment of opioid dependence. However, beginning in March 2018, the prior authorization requirement was removed, allowing for MAT medications to be more readily accessible to patients.

The objective of this study was to evaluate the impact of the policy change on opioid use, MAT initiation, and patient clinical outcomes hypothesized to be impacted by the removal of barriers to treatment for opioid dependence.

TABLE 1 ICD-10-CM Diagnosis Codes Used to Identify Opioid Use Disorder and Mental or Behavioral Health Disorders

Code	Description
Opioid use disorder	
F11.20	Opioid dependence, uncomplicated
F11.21	Opioid dependence, in remission
F11.22	Opioid dependence with intoxication
F11.220	Opioid dependence with intoxication, uncomplicated
F11.221	Opioid dependence with intoxication delirium
F11.222	Opioid dependence with intoxication with perceptual disturbance
F11.229	Opioid dependence with intoxication, unspecified
F11.23	Opioid dependence with withdrawal
F11.24	Opioid dependence with opioid-induced mood disorder
F11.25	Opioid dependence with opioid-induced psychotic disorder
F11.250	Opioid dependence with opioid-induced psychotic disorder with delusions
F11.251	Opioid dependence with opioid-induced psychotic disorder with hallucinations
F11.259	Opioid dependence with opioid-induced psychotic disorder, unspecified
F11.28	Opioid dependence with other opioid-induced disorder
F11.281	Opioid dependence with opioid-induced sexual dysfunction
F11.282	Opioid dependence with opioid-induced sleep disorder
F11.288	Opioid dependence with other opioid-induced disorder
F11.29	Opioid dependence with unspecified opioid-induced disorder
Mental and behavioral health disorders	
F01-F09	Mental disorders due to known physiological conditions
F20-F29	Schizophrenia, schizotypal, delusional, and other non-mood psychotic disorders
F30-F39	Mood [affective] disorders
F40-F48	Anxiety, dissociative, stress-related, somatoform and other nonpsychotic mental disorders
F50-F59	Behavioral syndromes associated with physiological disturbances and physical factors
F60-F69	Disorders of adult personality and behavior
F70-F79	Intellectual disabilities
F80-F89	Pervasive and specific developmental disorders
F90-F98	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence
F99-F99	Unspecified mental disorder

ICD-10-CM = International Classification of Diseases, Tenth Revision, Clinical Modification.

Methods

DATA SOURCES

This was a retrospective, cross-sectional study based on nationally represented administrative medical claims, pharmacy claims, and enrollment data from individuals who were enrolled in a Humana MAPD plan during 2017 or 2018 and met 1 or both of the following sets of criteria:

1. *Opioid users*: Individuals were considered chronic opioid users if they filled at least 1 opioid prescription and had a minimum cumulative 30-day supply of prescription opioids, as indicated by the days supply variable on the prescription, during the study period (2017-2018). The minimum 30-day supply requirement for chronic use was based on findings of Centers for Disease Control and Prevention indicating that 30 days of opioid use was associated with high probability of continuation of long-term opioid therapy.^{23,24}
2. *MAT recipients*: Individuals were considered MAT users if they filled least 1 MAT pharmacy claim for buprenorphine products, buprenorphine-naloxone, or naltrexone HCl, during the study period (2017-2018) and had a minimum cumulative 30-day supply of prescription opioids in the 12 months before the date of MAT initiation. "MAT initiation" was defined as the date of the first observed pharmacy claim for a MAT drug. MAT recipients were thus a subgroup of opioid users.

Individuals were required to be aged 19-89 years on the identification date relevant to the study population (ie, at the time of the first opioid drug claim or first MAT drug claim that was observed during the 2017-2018 study period). The medications used to identify MAT recipients were buprenorphine products, buprenorphine-naloxone, and naltrexone HCl products.

MEASURES

Pharmacy claims data were used to examine opioid utilization among opioid users and utilization of MAT drugs among MAT recipients before and after the removal of prior authorization requirements. To represent the population-level impact and decrease in quantity dispensed over time, opioid utilization was measured as the total number of opioid pills dispensed in 2017 and 2018. Utilization of MAT drugs was measured in 2 ways: (1) as the total number of pills of MAT drugs dispensed and (2) as the total number of unique MAT recipients.

Clinical outcome measures were assessed only among the MAT recipients in the 6-month interval following MAT initiation (index date), which included 2 health care outcomes indicators associated with relapse rates, inpatient

FIGURE 1 Attrition

MAPD=Medicare Advantage Prescription Drug plan; MAT=medication-assisted treatment.

pharmacological products intended for the treatment of pain. “Relapse” was defined as filling an opioid prescription greater than 14 days after initiation of MAT and within the 6-month follow-up period after MAT initiation.

The baseline characteristics of the MAT recipients were measured at the time of MAT initiation. These included demographic characteristics (age, sex, geographic location and urbanicity of residence, and income) at the time of the index date. Baseline characteristics also included several factors measured over the 6 months before the index date: inpatient stays and ED visits; clinical conditions, including comorbidities according to the RxRisk and Elixhauser scales and presence of a diagnosis of OUD; mental or behavioral health disorder diagnosis; and daily morphine milligram equivalent dosage (MME). The RxRisk score has been shown to be predictive of health care costs and mortality, while the Elixhauser Comorbidity Index has been shown to be associated with hospital charges, length of stay, and mortality.²⁶⁻²⁸ The *International Classification of Diseases, Tenth Revision, Clinical Modification* codes used for identifying OUD and mental or behavioral health conditions are included in Table 1.

ANALYSIS

Overall opioid and MAT utilization and incidence rates were assessed before and after the removal of the prior authorization requirement for coverage of MAT drugs. The comparison of opioid pill counts was adjusted for increase in overall MAPD enrollment from 2017 to 2018. In order to assess outcomes among MAT recipients, individuals included in the outcome analysis were required to have continuous enrollment for the 6-month period before and after MAT initiation. Outcomes were assessed over the 6-month period after MAT initiation. Baseline characteristics and treatment outcomes were compared for individuals initiating treatment during 2017 (before the policy change) vs 2018 (after the policy change). Statistical comparisons were made using chi-square tests (categorical variables) and two-tailed t-tests (continuous variables).

A logistic regression analysis was conducted comparing relapse rates after controlling for potentially confounding demographic and clinical factors, including age group, sex, population density, Elixhauser score, OUD and mental or behavioral health disorder diagnosis, low-income subsidy, dual eligible (Medicare/Medicaid) status, baseline daily morphine equivalent dose, presence of a pre-index hospitalization, and presence of a pre-index ED visit.

In this analysis, the impact of the policy change on relapse rates was assessed by including the year of MAT initiation in the regression model. The level for statistical significance was set at 0.05 for all analyses.

stays, and ED visits.²⁵ Three outcomes measures related to MAT use were also examined (the use of behavioral health services, relapse rates, and the use of relevant nonopioid medications) to check any co-occurrences in use of other

TABLE 2 Patient Characteristics Among MAT Recipients

Baseline characteristic	2017 initiators (n=999)	2018 initiators (n=1,222)	P value
Age, mean (±SD)	57.3 (±10.7)	57.91 (±9.8)	0.16
Age >65 years, n (%)	259 (25.9)	300 (24.5)	0.46
Age in years, n (%)			
19-35	28 (2.8)	22 (1.8)	0.092
36-44	95 (9.5)	105 (8.6)	
45-54	249 (24.9)	277 (22.7)	
55-64	368 (36.8)	518 (42.4)	
65-74	210 (21.0)	251 (20.5)	
75-89	49 (4.9)	49 (4.0)	
Sex, n (%)			
Female	515 (51.6)	596 (48.8)	0.19
Male	484 (48.4)	626 (51.2)	
Region, n (%)			
Northeast	21 (2.1)	33 (2.7)	0.34
Midwest	173 (17.3)	199 (16.3)	
South	696 (69.7)	832 (68.1)	
West	109 (10.9)	158 (12.9)	
Population density, n (%)			
Urban	601 (60.2)	703 (57.5)	0.07
Suburban	236 (23.6)	347 (28.4)	
Rural	136 (13.6)	143 (11.7)	
Unknown	26 (2.6)	29 (2.4)	

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Results

CHARACTERISTICS OF CHRONIC OPIOID USERS

Attrition for opioid- and MAT-use cohorts is presented in Figure 1. There were 639,345 total unique opioid users identified in 2017 and 2018 who met the study criteria. In the opioid-use cohort, 64% and 63% of patients were aged over 65 years in 2017 and 2018, respectively, and females comprised 60% of the cohort. The majority of patients (67%) in the opioid-use cohort had a mental or behavioral health disorder diagnosis within 6 months before their first opioid fill in 2017 or

2018; however, only 7% of the opioid-use cohort were using more than 90 MME. Among the opioid-use cohort, 20.3 million fewer opioid pills were dispensed in 2018 than in 2017. After adjustment for the 7.21% relative overall increase in MAPD enrollment from 2017 to 2018, the magnitude of the decline grew to 48.5 million fewer opioid pills.

CHARACTERISTICS OF MAT RECIPIENTS

A total of 2,221 MAT users (999 patients initiating MAT in 2017 and 1,222 initiating MAT in 2018) had 6 months of continuous enrollment before and after MAT initiation, representing

an MAT incidence rate of 349 per 100,000 opioid users in 2017 and 440 per 100,000 in 2018 (Table 2). Although only participants in a Medicare MAPD plan were considered for inclusion in the study, 26% of 2017 initiators and 25% of 2018 initiators were aged over 65 years. The proportion of individuals dually eligible for Medicaid and Medicare exceeded 50% in both years of analysis but was greater in 2017 than in 2018. There was an equal distribution of males and females in the MAT-use cohort. The 2018 initiators were less healthy according to mean Elixhauser scores. The majority of patients—78% in 2017 and 73% in 2018—had received an OUD diagnosis before MAT initiation, and 92% of initiators in both years had received a previous diagnosis of a mental or behavioral health disorder. Although the data used in the study is from a nationally represented health plan, almost 70% of the opioid-use cohort and MAT-use cohort resided in the South. The majority of patients were on daily opioid doses of less than 90 MME at the time of MAT initiation. Among the MAT recipients, 339,705 more MAT medication pills were dispensed in 2018 than in 2017; the magnitude of increase fell to 324,642 more MAT medication pills after adjustment for the growth in enrollment. The number of total individuals initiating MAT in 2017 was 1,096, while 1,593 individuals who had not received MAT in 2017 initiated MAT in 2018. This represents an increase in initiation of MAT after prior authorizations were discontinued of 45.35%, unadjusted, and 7.8% increase, after adjusting for the increase in overall MAPD enrollment from 2017 to 2018.

PATIENT OUTCOMES AMONG MAT USERS

Unadjusted health outcomes among MAT users are presented in Table 3. The frequency of inpatient stays and

TABLE 2 Patient Characteristics Among MAT Recipients (*continued*)

Baseline characteristic	2017 initiators (n=999)	2018 initiators (n=1,222)	P value
Income, n (%)			
LIS only	145 (14.5)	182 (14.89)	0.04
Dual eligibility ^a and LIS	440 (44.0)	476 (38.95)	
Neither dual eligibility nor LIS	414 (41.44)	564 (46.15)	
General health care utilization in 6 months before MAT initiation, n (%)			
≥1 IP stay	280 (28.0)	340 (27.8)	0.92
≥1 ED visit	522 (52.3)	630 (51.6)	0.74
Comorbidities assessed in 6 months before MAT initiation			
RxRisk score, mean (±SD)	7.89 (±3.1)	8.11 (±3.1)	0.10
Elixhauser score, mean (±SD)	3.76 (±2.9)	4.14 (±3.2)	<0.01
Behavioral disorders identified in 6 months before MAT initiation, n (%)			
OUD	778 (77.9)	888 (72.7)	<0.01
Mental or behavioral health disorder	916 (91.7)	1,127 (92.2)	0.65
Opioid dosage (daily MED) at time of MAT initiation, n (%)			
≤49 mg	554 (55.5)	580 (47.5)	<0.01
50-89 mg	205 (20.5)	320 (26.2)	
90-149 mg	128 (12.8)	176 (14.4)	
≥150 mg	112 (11.2)	146 (11.9)	

Note: The authors' analysis of claims data is presented for individuals (aged 19-89 years) participating in a Humana MAPD plan in 2017 and/or 2018 who could be identified as opioid users and recipients of MAT for OUD. Analysis excludes individuals without continuous enrollment from 6 months before until 6 months after MAT initiation.

^aEligibility for Medicaid and Medicare.

ED=emergency department; IP=inpatient; LIS=low-income subsidy; MAPD=Medicare Advantage and Prescription Drug plan; MAT=medication-assisted therapy; MED=morphine equivalent dose; OUD=opioid use disorder.

ED visits within the 6 months before MAT initiation was similar between those who initiated MAT in 2017 and those who initiated MAT in 2018 (shown in Table 2), and the frequency of inpatient stays during the 6 months after MAT initiation remained very similar between the 2 years. The post-initiation frequency of ED visits was 4% less among the 2018 initiators, when there were fewer barriers to accessing MAT, than among the 2017 initiators. There were no statistically significant differences in the use of behavioral health services or non-opioid medications from 2017 to 2018.

RELAPSE RATE AMONG MAT RECIPIENTS

The 6-month rate of relapse was 53.1% among individuals initiating MAT during 2017 and 49.1% among 2018 initiators ($P=0.06$). After adjusting for baseline clinical and demographic factors, the logistic regression model showed a statistically significant 19% reduction in the likelihood of relapse after initiation of MAT, comparing 2018 initiators with 2017 initiators (Table 4). Females were slightly more likely than males to relapse back to opioid use; however, the difference was not statistically significant. A higher Elixhauser score was associated with a greater

likelihood of relapse. Patients with an OUD diagnosis had a statistically significant 47% reduction in likelihood of relapse.

Discussion

This study found that removal of prior authorization requirements for MAT drugs in a national MAPD population was followed by a significant reduction in the quantity of opioid pills dispensed to individuals using opioids on a chronic basis. This policy change was also followed by an increase in the use of MAT medications, reflected in a greater number of dispensed MAT drugs and an increase in the number of individuals initiating MAT. Directionally, there was a decrease in ED visits from 2017 to 2018, an outcome that the literature has also previously associated with adherence and compliance to MAT.^{25,29}

The increase in MAT use from 2017 to 2018 was also accompanied by a decrease in relapse rates. While the relapse rate difference between 2017 and 2018 was not statistically significant, directionally this may suggest that removal of the prior authorization barrier not only allowed for greater access to and use of MAT but also potentially encouraged recipients to comply with treatment. This hypothesis regarding compliance to treatment is further supported by results of the regression model, which demonstrated a statistically significant reduction in the likelihood of relapse among opioid users initiating MAT after the removal of prior authorization requirements.

This is the first study to examine the impact of reduced MAT utilization restrictions in a Medicare population and builds on research that has focused specifically on Medicaid programs. However, it should be mentioned that within the Medicare population analyzed in this study, 54%

TABLE 3 Unadjusted Outcomes Among MAT Recipients in the 6 Months After MAT Initiation

Outcomes	2017 initiators (n = 999)	2018 initiators (n = 1,222)	P value
General health care utilization, n (%)			
≥1 IP stay	187 (18.7)	239 (19.6)	0.62
≥1 ED visit	474 (47.4)	532 (43.5)	0.07
OUD-relevant outcomes, n (%)			
Relapse	530 (53.1)	600 (49.1)	0.06
Behavioral health services	88 (8.8)	112 (9.2)	0.77
Medication usage, n (%)			
NSAIDs	28 (2.80)	23 (1.88)	0.15
Glucocorticoids	13 (1.30)	7 (0.57)	0.07
Antidepressants	122 (12.21)	156 (12.77)	0.70
Muscle relaxants	38 (3.80)	36 (2.95)	0.26
Select anticonvulsants	62 (6.21)	85 (6.96)	0.48
Benzodiazepines	63 (6.31)	66 (5.40)	0.36
Stimulants	3 (0.30)	10 (0.82)	0.11

Notes: The authors' analysis of claims data is presented for individuals (aged 19-89 years) participating in a Humana MAPD plan in 2017 and/or 2018 who could be identified as opioid users and recipients of MAT for OUD. Analysis excludes individuals without continuous enrollment from 6 months before until 6 months after MAT initiation. Outcomes were measured in the 6-month interval following MAT initiation.

ED=emergency department; IP=inpatient; MAPD=Medicare Advantage and Prescription Drug plan; MAT=medication-assisted therapy; NSAID=nonsteroidal anti-inflammatory drug; OUD=opioid use disorder.

of patients either were dually eligible with low-income subsidy status or had stand-alone low-income subsidy status. Previous work has shown that removal of utilization controls for opioid addiction treatment is a strategy that has been used to meet the minimum benefit and parity regulations that were imposed by the Affordable Care Act on state Medicaid plans.³⁰ Further investigation showed that the participation in opioid addiction programs for Medicaid patients is highest in those states that do not impose any utilization restrictions on use of buprenorphine.²²

Although the majority of MAT recipients in the present study had a documented diagnosis of OUD in the medical claims record, more than 20% of initiators in each year did

not. In the adjusted analysis examining relapse rates, the presence of an OUD diagnosis was associated with a lower (by almost 50%) odds of relapse, independent of the removal of prior authorization. This reduced risk may be attributable to better case management among patients diagnosed with OUD than patients with opioid dependence who have not received an OUD diagnosis. From a health plan perspective, when a patient receives an OUD diagnosis, the plan can more easily identify the at-risk patient and trigger special outreach efforts and targeted case management under the plan's drug management programs (DMPs). This outreach includes targeted interventions, such as behavioral health services; pharmacological therapies, such as MAT and overdose rescue

medications to keep on hand; alternative pain management therapies; and coordinated case management among a patient's primary care provider, the health plan and the plan's DMP, and others involved in the patient's care.

The observation that greater than 90% of MAT recipients in this study had a diagnosis of a mental or behavioral health disorder further demonstrates the necessity for coordinated care and highlights the essential role of health care providers in the screening and diagnosing of OUD, since this initial step is a key trigger for health plans and providers to prevent overdose and establish the course of a patient's treatment and recovery path.

The characteristics of MAT users described in this study are consistent with other reports in the literature. One study found that 1.13% of opioid users covered by Medicare fee-for-service misused or abused opioids and that 76% of those persons were receiving Medicare because of disability rather than age.⁶ Similarly, in the present study 75%-77% of the MAT recipients were aged under 65 years, whereas the majority of the opioid-use cohort, of which the MAT cohort was a subset, was aged over 65 years.

Other research has found that individuals qualifying for Medicare due to disability accounted for 81% of opioid overdose deaths in the overall Medicare population.^{5,31} The concentration of OUD in younger Medicare recipients highlights the complexity of the condition and correlation with co-occurring conditions such as disability and mental or behavioral health disorders. This finding has implications for targeting certain risk profiles of patient populations for outreach and case management strategies.

The majority of MAT recipients in this study were using low daily MME (<90 MME) in the months before MAT initiation. This may indicate that Medicare patients are developing

TABLE 4 Association of MAT Initiation Year with Relapse Rate Within 6 Months After MAT Initiation

Variable	Odds ratio (95% CI)	P value	Variable	Odds ratio (95% CI)	P value
Year of MAT initiation			Mental or behavioral health diagnosis^a		
2017	(Reference)	–	No	(Reference)	–
2018	0.813 (0.684-0.967)	0.02	Yes	0.919 (0.665-1.269)	0.61
Age at time of initiation			LIS/dual eligibility status at time of initiation		
19-54 years	(Reference)	–	No LIS or dual eligibility	(Reference)	–
55-64 years	0.922 (0.754-1.127)	0.30	LIS or dual eligibility	0.961 (0.802-1.152)	0.67
65-89 years	1.021 (0.806-1.293)	0.56	Opioid dosage (daily MED) at time of initiation		
Sex			≤ 49 mg	(Reference)	–
Male	(Reference)	–	50-89 mg	0.866 (0.700-1.072)	0.23
Female	1.171 (0.985-1.393)	0.07	90-149 mg	0.870 (0.67-1.129)	0.34
Population density at time of initiation			≥ 150 mg	1.105 (0.835-1.461)	0.16
Urban	(Reference)	–	≥ 1 inpatient admission^a		
Suburban	1.002 (0.819-1.225)	0.32	No	(Reference)	–
Rural	0.896 (0.687-1.169)	0.08	Yes	1.076 (0.854-1.356)	0.54
Unknown	1.671 (0.943-2.962)	0.06	≥ 1 ED visit^a		
1-unit increase in Elixhauser score^a			No	(Reference)	–
1-unit increase in Elixhauser score ^a	1.073 (1.038-1.11)	<0.001	Yes	1.159 (0.952-1.411)	0.14
OAD diagnosis^a					
No	(Reference)	–			
Yes	0.530 (0.432-0.651)	<0.001			

Notes: Authors' analysis of claims data is presented for individuals (aged 19-89 years) participating in a Humana MAPD plan in 2017 and/or 2018 who could be identified as opioid users and recipients of MAT for OUD. Analysis excludes individuals without continuous enrollment from 6 months before and after MAT initiation. Odds ratios were generated with logistic regression models.

^aAccording to claims from the 6-month period before MAT initiation.

ED = emergency department; LIS = low-income subsidy; MAPD = Medicare Advantage and Prescription Drug plan; MAT = medication-assisted therapy;

MED = morphine equivalent dose; OUD = opioid use disorder.

dependence on lower daily dosages or that patients were also using additional opioids that are not evidenced in pharmacy claims, such as prescriptions purchased with cash or other opioids obtained illicitly. This possibility highlights the necessity for prescribers, pharmacists, and drug management programs to use their state prescription drug monitoring programs.

LIMITATIONS

Several limitations must be noted. This study was subject to the limitations of all administrative claims analyses, that is, missing data and incorrect coding. Individuals were not randomly assigned to prior authorization for MAT drugs vs access to MAT drugs without prior authorization. Rather, outcomes were compared between postpolicy and pre-policy patient populations (2018 vs 2017); however, this is unlikely to have introduced meaningful bias.

Regression analysis of relapse rates was designed to control for differences in demographic and clinical factors that could have influenced outcomes. Environmental factors such as trends in broader diagnosis and treatment patterns, physician willingness to prescribe MAT treatment, and declining stigma associated with MAT over time occurred at the same time as the policy change. The observed relapse rates may be lower than actual rates if any MAT recipients began using illicitly obtained opioids; however, it is unlikely that use of illicit opioid medication would differ substantially over the study time frame.

During this time period, there were several internal Humana initiatives that may have influenced opioid and MAT use, including limiting initial MME doses and targeted provider and patient outreach campaigns.

The difference in opioid and MAT pills dispensed between 2018 and 2017 was adjusted to account for the 2017-2018 increase in overall MAPD enrollment. The authors applied

the assumption that overall opioid dispensing is strongly correlated with increases in overall plan enrollment.

Finally, results may not be generalizable to non-Medicare populations or populations in which OUD is due strictly to illicit rather than pharmaceutical opioid usage.

Conclusions

MAT is the most effective treatment for OUD, and providing patients with evidence-based therapy is essential to patient recovery. The results of this study indicate positive findings to reductions in relapse rates among patients initiating MAT therapy after removal of prior authorization requirements. Although the clinical course of OUD generally involves periods of remission and relapse even with the best available treatment strategies, reducing the frequency of relapse makes a significant contribution to curbing the opioid epidemic. Utilization management policies should be designed to avoid unnecessary impediments to prescribing and using MAT.

The study findings highlighting reduced likelihood of relapse among patients with an OUD diagnosis support the need for future research that explores additional strategies for encouraging clinicians to screen for and diagnose OUD when clinically appropriate, as well as for educating clinicians on the benefits of MAT prescribing. Further research should also investigate outreach strategies and stratification based on the risk factors for relapse identified in this study.

While there are still significant challenges to overcoming the opioid epidemic, removing administrative barriers, such as prior authorization requirements, is an essential step to increasing patient access to treatment and recovery.

DISCLOSURES

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