Clinical and Economic Impact of Relapse in Patients with Opioid Use Disorder in the US

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Objectives

- Opioid Use Disorder (OUD) is a chronic brain disease that can be successfully managed with buprenorphine (BPN)
- Like other chronic diseases, OUD involves cycles of relapse and remission, with relapse often associated with medication treatment discontinuation
- This study seeks to characterize the relationship between healthcare expenditures and the relapse of patients with OUD and to evaluate real-world BPN treatment persistence

Methods

- This is a retrospective observational study of patients with OUD enrolled in commercial, Medicare and Medicaid health plans
- Administrative claims data incurred between January 1, 2011 and March 31, 2018 was considered for the study
- Patients were required to have a minimum of two years of follow up
- Patients with baseline or follow-up periods extending beyond the claims evaluation window were excluded in order to identify members with new-onset OUD, rather than those with pre-existing OUD
- Patients were divided into three cohorts

Cohort One: Opioid Use Disorder (OUD) with Relapse

Diagnosis for OUD plus any of the following
- » A claim for opioid detoxification
- » Inpatient admission with any of the following:
  - A primary diagnosis of OUD
  - Overdose/opioid poisoning
  - OUD complication diagnosis codes at any position in the coding sequence (i.e., endocarditis)

Emergency department visit with either:
- » A primary diagnosis of OUD
- » A diagnosis of overdose at any position
- » OUD complication diagnosis codes at any position in the coding sequence (i.e., acute respiratory distress)

Cohort Two: OUD without Relapse

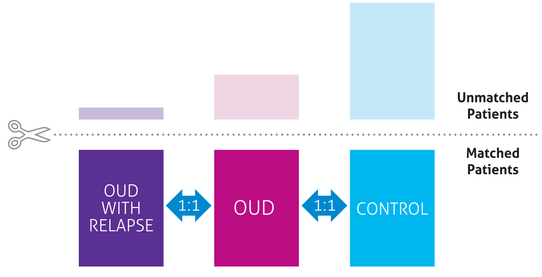
Diagnosis for OUD but without claims for complication or relapse

Cohort Three: Control Group

The control patient group had acute treatment with an opioid product

- A 1:1:1 propensity score match was performed (Figure 1)

Figure 1. Overview of Cohort Assignment

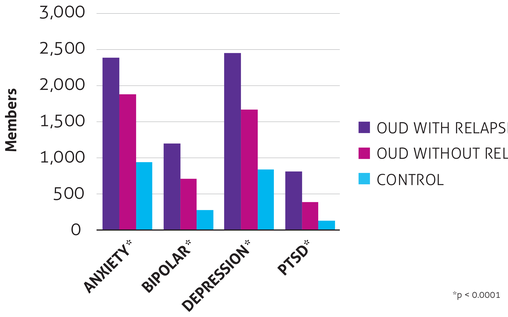


To reduce bias due to study group assignments, used published technique of propensity matching on
- Age
- Gender
- Charlson Comorbidity Index (CCI)
- Line of Business

Results

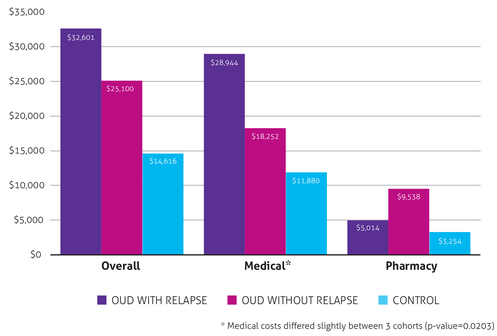
- 3,630 propensity matched patients from each of the cohorts qualified for the analysis
- Patients were most commonly female (65%), between 21-40 years of age (>70%), and enrolled in a Managed Medicaid plan (71%)
- Patients with OUD demonstrated low persistence in buprenorphine treatment for both the relapsing (125 mean days in treatment episode) and non-relapsing (173 days) cohorts

Figure 2. Follow Up Period Mental Health Comorbidities



Higher rates of anxiety, bipolar disorder, depression and hepatitis C were found for OUD patients with relapse.

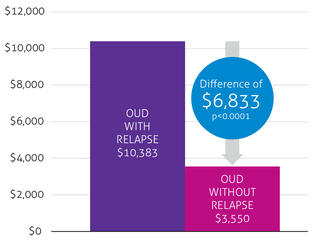
Figure 3. Allowed Amount: Overall, Medical and Pharmacy Costs



* Medical costs differed slightly between 3 cohorts (p-value=0.0203)

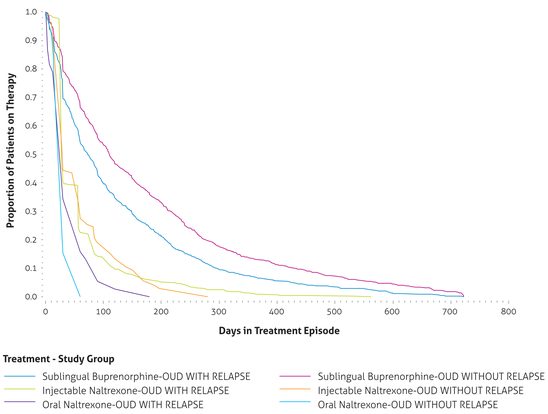
OUD patients with relapse incurred greater per member medical costs

Figure 4. Opioid Dependence-Related Medical Costs



Among patients with OUD, costs related to opioid dependence were higher for the relapsing cohort ($10,383) as compared to the non-relapsing cohort ($3,550) (p<0.0001)

Figure 5. Time to Medication Discontinuation Among Individuals with OUD



Conclusions

- Early identification of OUD patients at risk of relapse represents an opportunity to reduce healthcare resource utilization
- Duration of MAT is low in patients with OUD, with and without relapse, suggesting the needs for strategies to improve persistence and adherence
- Improved methods to identify patients with OUD in need of additional interventions and methods to prolong medication treatment duration are needed

Limitations of Administrative Claims Evaluation of Prevalence of OUD and Relapse Rates

- Patient characteristics specific to OUD which should be considered when interpreting results include:
  - Patients with OUD may be less likely to be covered by commercial/employer plans
  - Patients with OUD may be less likely to maintain state assisted eligibility
  - Patients with OUD who do maintain coverage may be higher functioning, less severe (i.e. lower cost)
  - Patients with OUD with relapse may be more severe and, therefore, underrepresented
- There is potential for introduction of biases in assigning patients to cohort by hospitalizations
- Claims based analysis does not capture Methadone treatment
  - Methadone treatment for OUD is generally not covered by health plans and was not available for this study
  - Methadone adherence, persistence, etc. for OUD treatment cannot be reliably reported

Disclosures

- This research was funded by Braeburn