

# 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

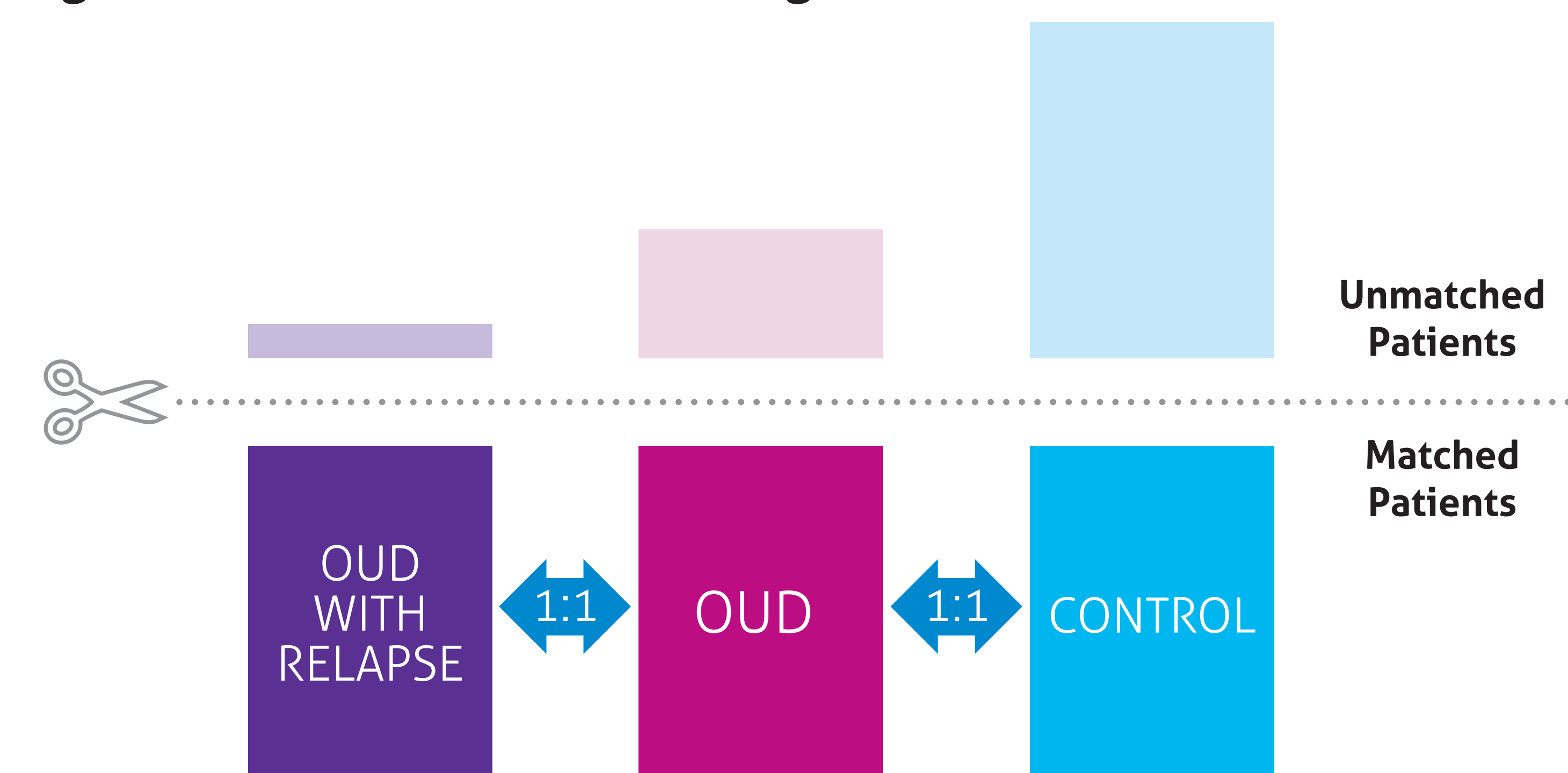
Diagnosis for OUD but without claims for complication or relapse

### 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



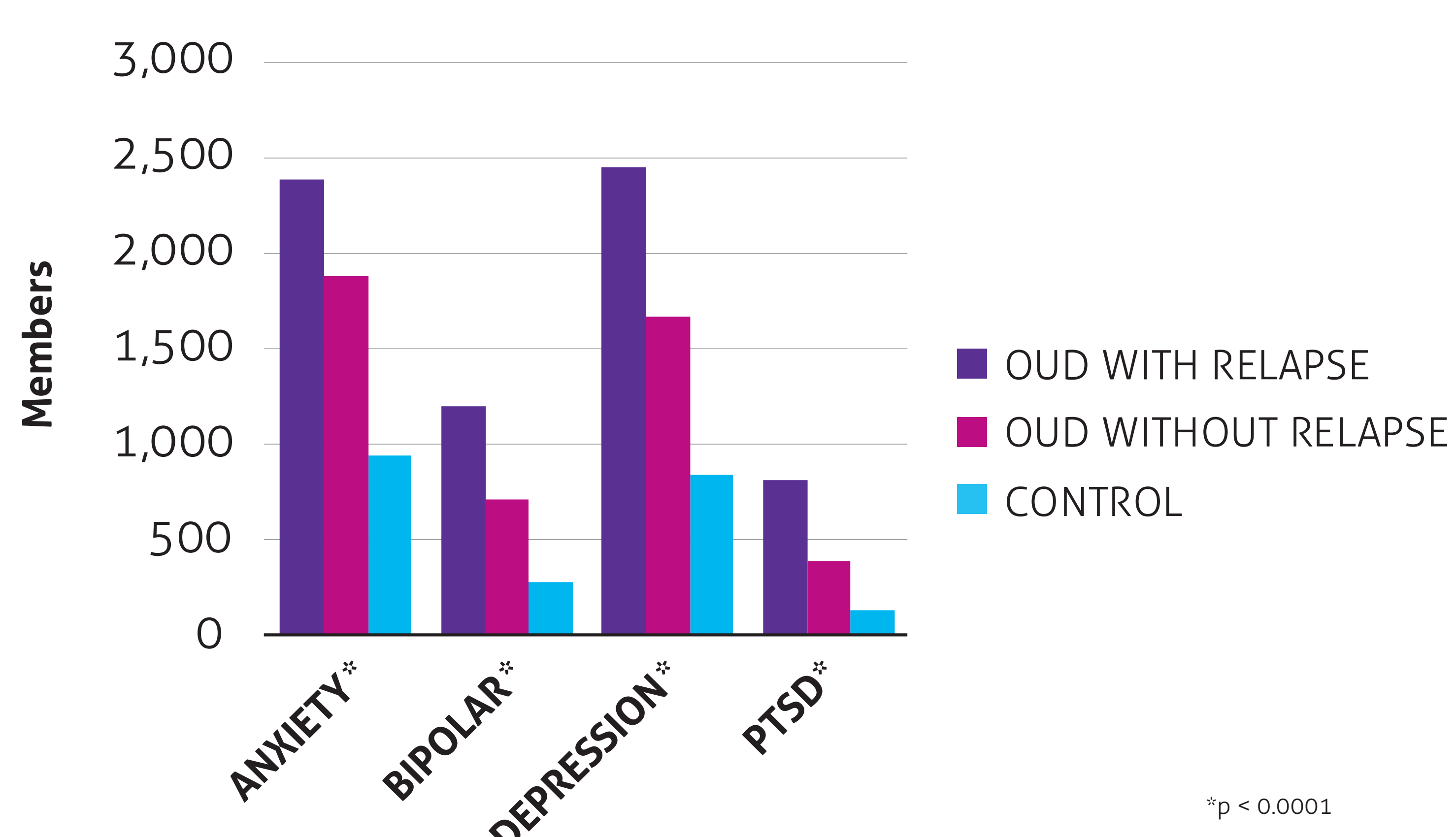
To reduce bias due to study group assignments, used published technique of propensity matching on

- Age
- Gender
- Charlson Comorbidity Index (CCI)
- Line of Business

## Results

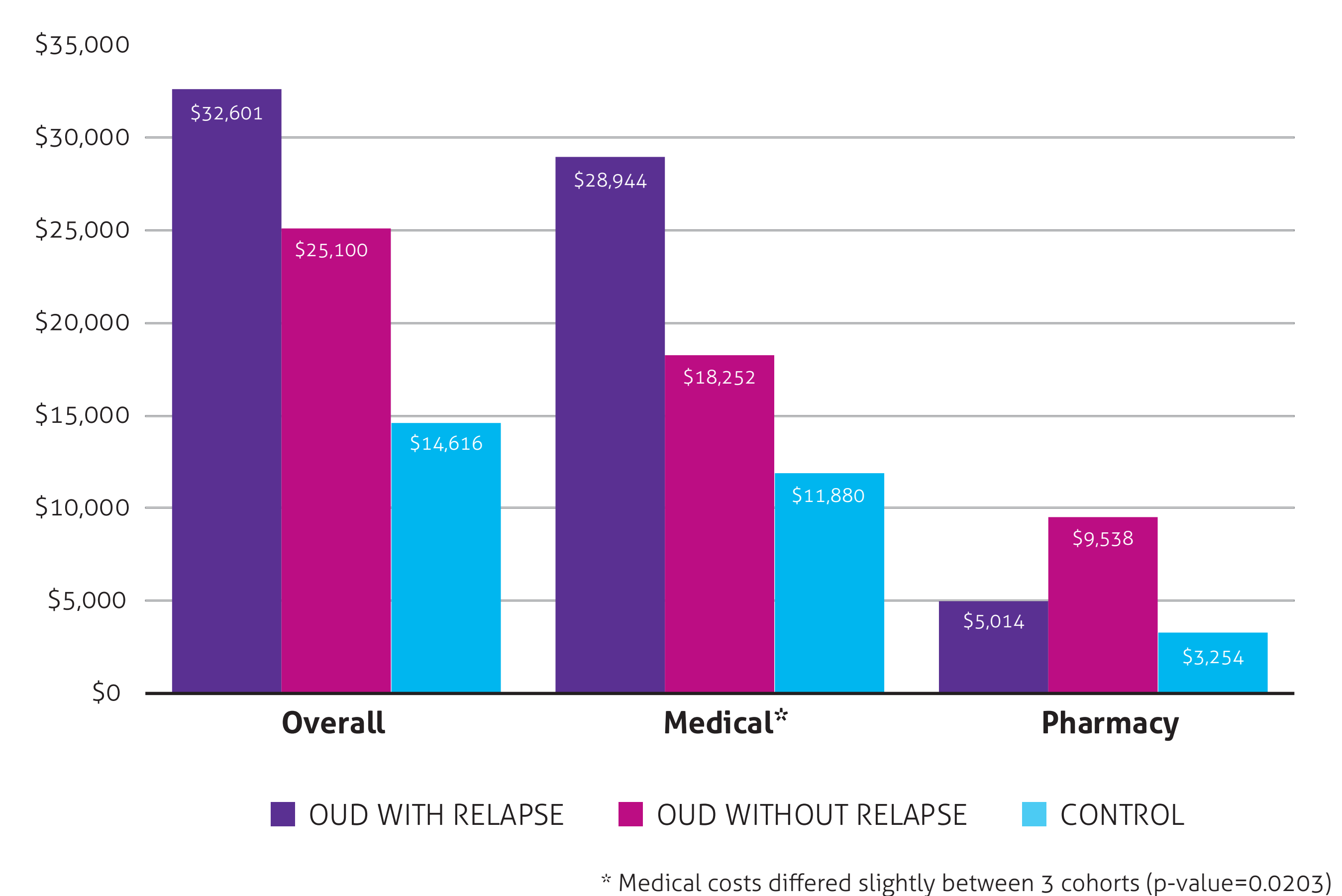
- 3,630 propensity matched patients from each of the cohorts qualified for the analysis
- Patients were most commonly female (65%), between 21-40 years of age (>70%), and enrolled in a Managed Medicaid plan (71%)
- Patients with OUD demonstrated low persistence in buprenorphine treatment for both the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

Figure 2. Follow Up Period Mental Health Comorbidities



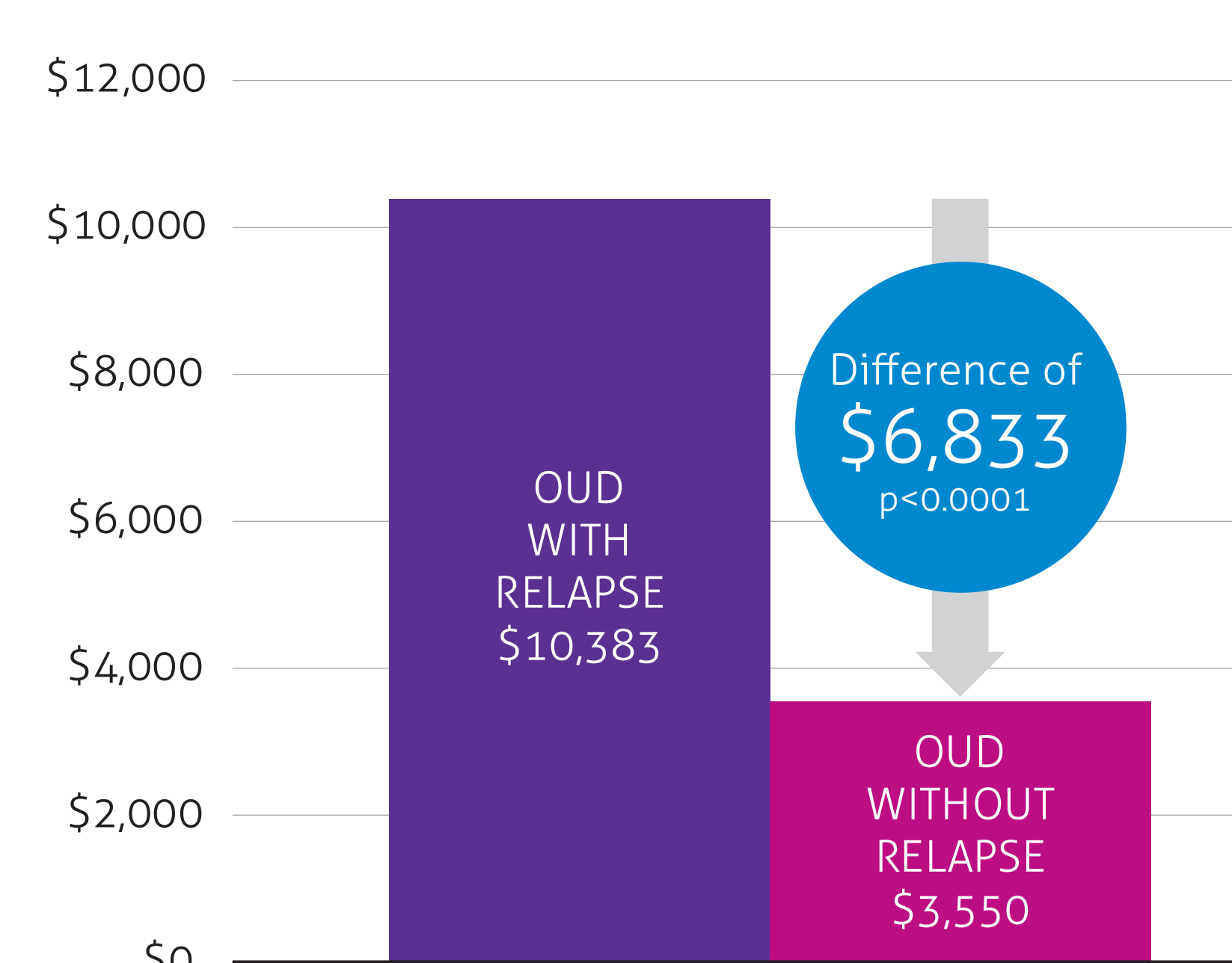
Higher rates of anxiety, bipolar disorder, depression and hepatitis C were found for OUD patients with relapse.

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



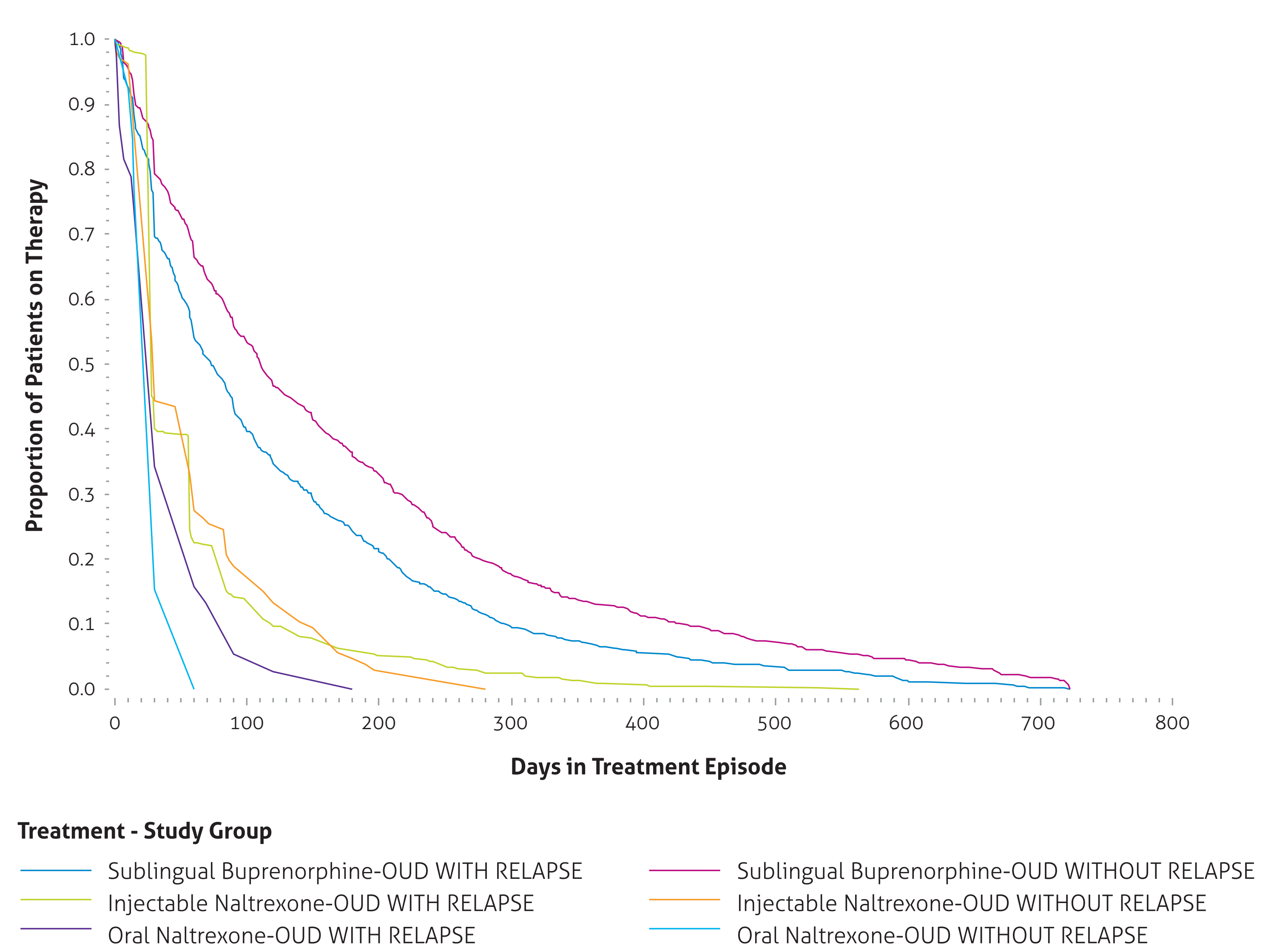
OUD patients with relapse incurred greater per member medical costs

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:
  - o Patients with OUD may be less likely to be covered by commercial/employer plans
  - o Patients with OUD may be less likely to maintain state assisted eligibility
  - o Patients with OUD who do maintain coverage may be higher functioning, less severe (i.e. lower cost)
  - o 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
  - o Methadone treatment for OUD is generally not covered by health plans and was not available for this study
  - o Methadone adherence, persistence, etc. for OUD treatment cannot be reliably reported

## Disclosures

- This research was funded by Braeburn