Identifying Opioid Use Disorder in Administrative Claims Data: Comparison of Medical Utilization by Diagnosis and Treatment Type

Amber R. Watson, PharmD[1], David M. Simon, PhD[1], Meridith Blevins Peratikos, MS[1,2], Elizabeth Ann Stringer, PhD[1]
[1]axialHealthcare, Nashville, Tennessee; [2]Vanderbilt University Medical Center, Department of Biostatistics, Nashville, Tennessee

PURPOSE

Several methods may be utilized for identifying opioid use disorder (OUD) in administrative claims data:

- *Multiple International Classification of Diseases, Tenth Revision* (ICD-10) medical codes under the F11 heading for opioid related disorders may be documented.[1]
- *The Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) recommends practitioners utilize ICD-10 codes F11.10 ("opioid abuse, uncomplicated") and F11.20 ("opioid dependence, uncomplicated"), with F11.20 indicating moderate to severe OUD.[2]
- Patients may be identified as having OUD upon receipt of a prescription for buprenorphine for medication-assisted treatment (MAT).

The method by which OUD is first recognized in administrative claims may be related to patient profiles and the nature of subsequent medical care that patients receive. The purpose of this analysis is to determine if differences exist in cost, receipt of buprenorphine for MAT, or continued receipt of non-MAT opioid prescriptions post-OUD diagnosis based on the method first utilized to document OUD in administrative claims data.

METHODS

This is a retrospective study of administrative claims for commercial health coverage from Blue Health Intelligence™ in the United States.[3] Patients with at least 12 months of benefits eligibility before and after an initial OUD diagnosis (i.e. no history of OUD) were identified during October 2014 to March 2017.

OUD was identified by one of two methods:

1) documentation of an initial prescription for buprenorphine for MAT (from a retail pharmacy) with a duration of 3 or more days
2) documentation of an initial diagnosis of any F11 ICD-10 code (excluding F11.11 "opioid abuse, in remission" and F11.21 "opioid dependence, in remission")

Descriptive analyses included:

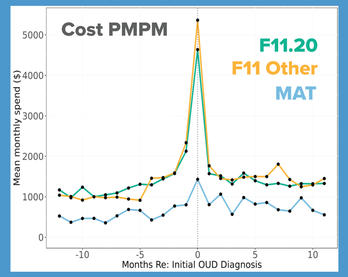
- mean dollars spent per member per month (PMPM)
- Kaplan-Meier estimates for receipt of buprenorphine for MAT one year following an OUD diagnosis
- proportion of patients with prescription claims for a non-MAT opioid on a monthly basis

RESULTS

6,132 individuals identified as having OUD

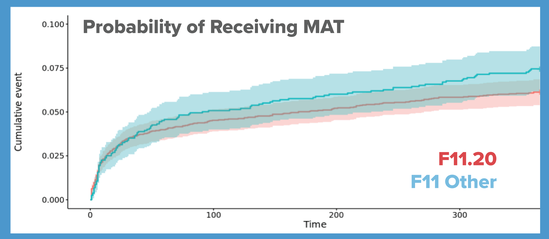
- 4,128 (67.3%) received F11.20 diagnosis ("opioid dependence, uncomplicated")
- 1,609 (26.2%) received any other applicable F11 ICD-10 diagnosis
- 395 (6.4%) received buprenorphine prescription for MAT ≥ 3 days duration

RESULTS (continued)



During month of dx:
- F11.20 = $4,636
- F11 other = $5,361
- MAT = $1,430

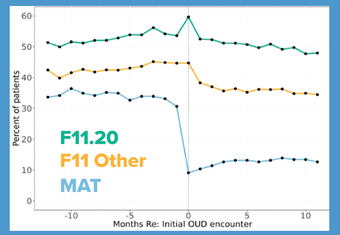
10 months post-dx:
- F11.20 = $1,321
- F11 other = $1,450
- MAT = $553



Probability of MAT receipt within 1 year of initial diagnosis:
- F11.20 = 6.1% (95% CI: 5.4-6.9%)
- F11 other = 7.5% (95% CI: 6.2-8.7%)

Log-rank test indicated rates were not significantly different between groups (p = 0.07)

Opioid Agonist Prescriptions



One month before dx:
- MAT = 30.6%

During month of dx:
- F11.20 = 59.7%
- F11 other = 44.7%
- MAT = 9.1%

10 months post-dx:
- F11.20 = 48%
- F11 other = 34.5%
- MAT = 13.4%

CONCLUSIONS

Patients with OUD may have different member profiles based on the initial indicator of an OUD diagnosis in administrative claims data:

- Patients identified by the F11.20 ICD-10 diagnosis code represent a large portion of OUD diagnoses and are similar in healthcare utilization and treatment outcomes to patients identified by other applicable F11 ICD-10 codes.
- The proportion of these patients receiving non-MAT prescription opioids also does not markedly decrease after their diagnosis, while many individuals on buprenorphine for MAT discontinue non-MAT prescription opioids.
- Patients identified by any F11 code also have elevated healthcare costs compared to patients who immediately initiate sustained buprenorphine MAT prescription, and comparative costs remain elevated at 10 months post-diagnosis. These sustained elevated costs are especially concerning given that only 6.5% of all patients identified by F11 ICD-10 diagnosis codes are prescribed buprenorphine for MAT within 12 months of diagnosis.

REFERENCES

1. American Medical Association. ICD-10-CM 2018: The Complete Official Codebook. 1st ed. Chicago, IL: American Medical Association; 2018.

2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013.

3. Blue Health Intelligence™ (https://bluehealthintelligence.com/bigdata)