

COMPARISON OF CHARACTERISTICS AND MEDICATION-ASSISTED TREATMENT-RELATED HEALTHCARE RESOURCE UTILIZATION AMONG U.S. COMMERCIALY-INSURED PATIENTS WITH OPIOID USE DISORDER BY TYPE OF MEDICATION-ASSISTED TREATMENT RECEIVED

Allison Perry¹, Janna Manjelievskaia¹

¹IBM Watson Health, Life Sciences and Outcomes Research, Cambridge, MA, USA

Background

- Opioid use disorder (OUD) is a serious and growing epidemic in the United States, associated with a range of mental and general comorbid disorders and increased mortality^{1,2}
- First-line treatment for patients with OUD is medication-assisted treatment (MAT), consisting of psychosocial treatment and one of three FDA-approved medications: buprenorphine, naltrexone or methadone³
 - MAT decreases opioid use, overdose deaths, criminal activity, and infectious disease transmission, while increasing social functioning and treatment retention⁴
- Differences among MAT-treated patients are not well established; evidence should guide decisions about which type of MAT pharmacotherapy is optimal for individual patients, as OUD is highly heterogeneous⁵

Objective

- To compare demographics, baseline clinical characteristics and follow-up OUD-related healthcare resource utilization (HCRU) among OUD patients by type of MAT pharmacotherapy initiated

Methods

Study Design and Data Source

- This study employed a retrospective observational cohort design within the IBM® MarketScan® Commercial Claims and Encounters Database
- The MarketScan® data was accessed using Treatment Pathways 4.0, an online analytic platform, to identify newly-diagnosed OUD patients initiating one of three MAT pharmacotherapies

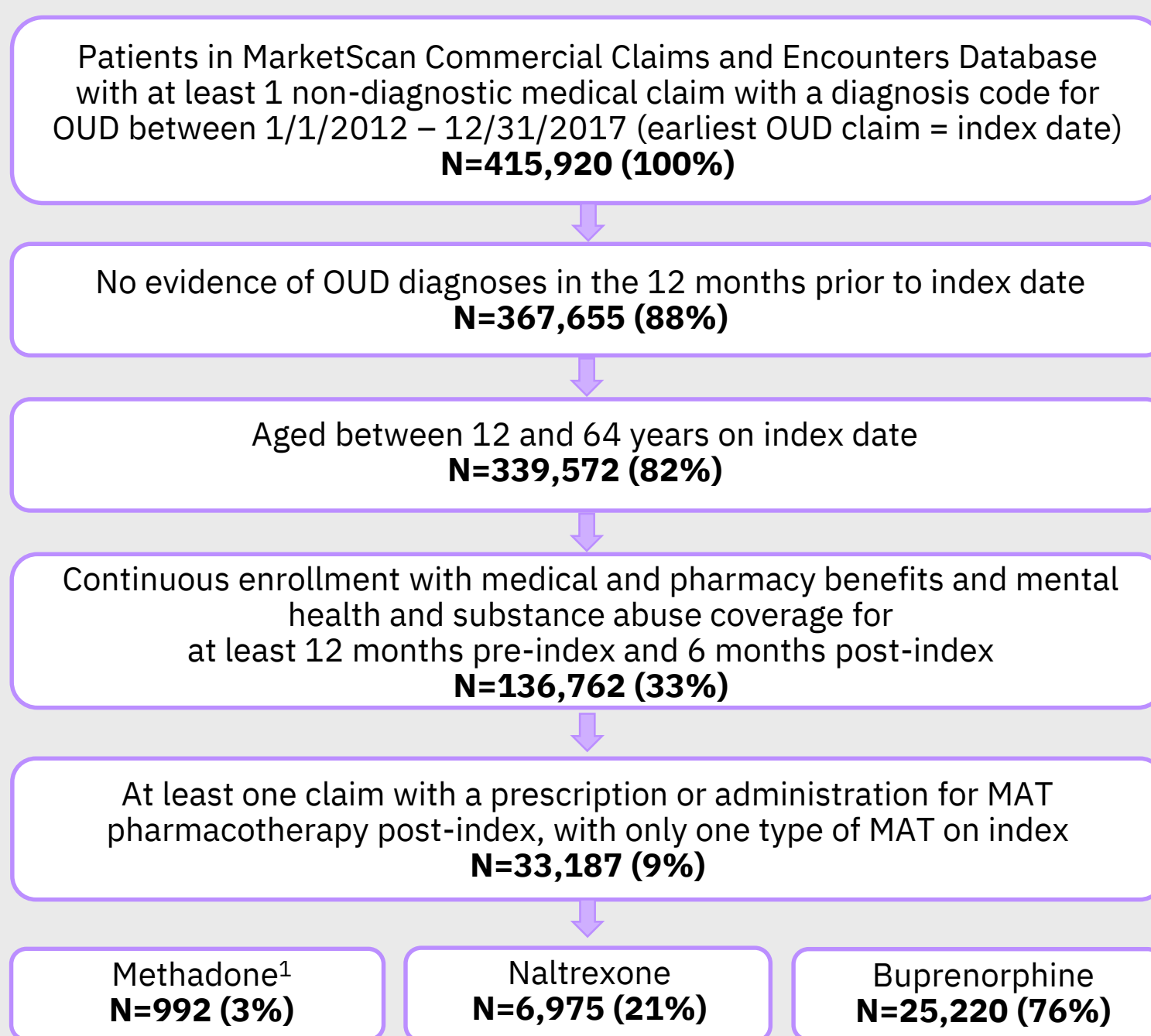
Outcomes

- Primary outcomes were patient demographics, baseline clinical characteristics and OUD-related HCRU, stratified by type of MAT pharmacotherapy initiated following OUD diagnosis

Results

- A total of 33,187 newly-diagnosed OUD patients initiated on MAT pharmacotherapy and met the study criteria, of whom 76% initiated on buprenorphine, 3% on methadone, and 21% on naltrexone (Figure 1)
- Patients initially prescribed naltrexone were, on average, younger (mean=32 years [SD=13]) than those initiating buprenorphine (34[13]) and methadone (37 [13]) (Table 1)

Figure 1. Patient Selection



¹Includes methadone HCPCS only, as methadone NDCs are indicated for pain

Table 1. Demographic Characteristics by Pharmacotherapy Initiated*

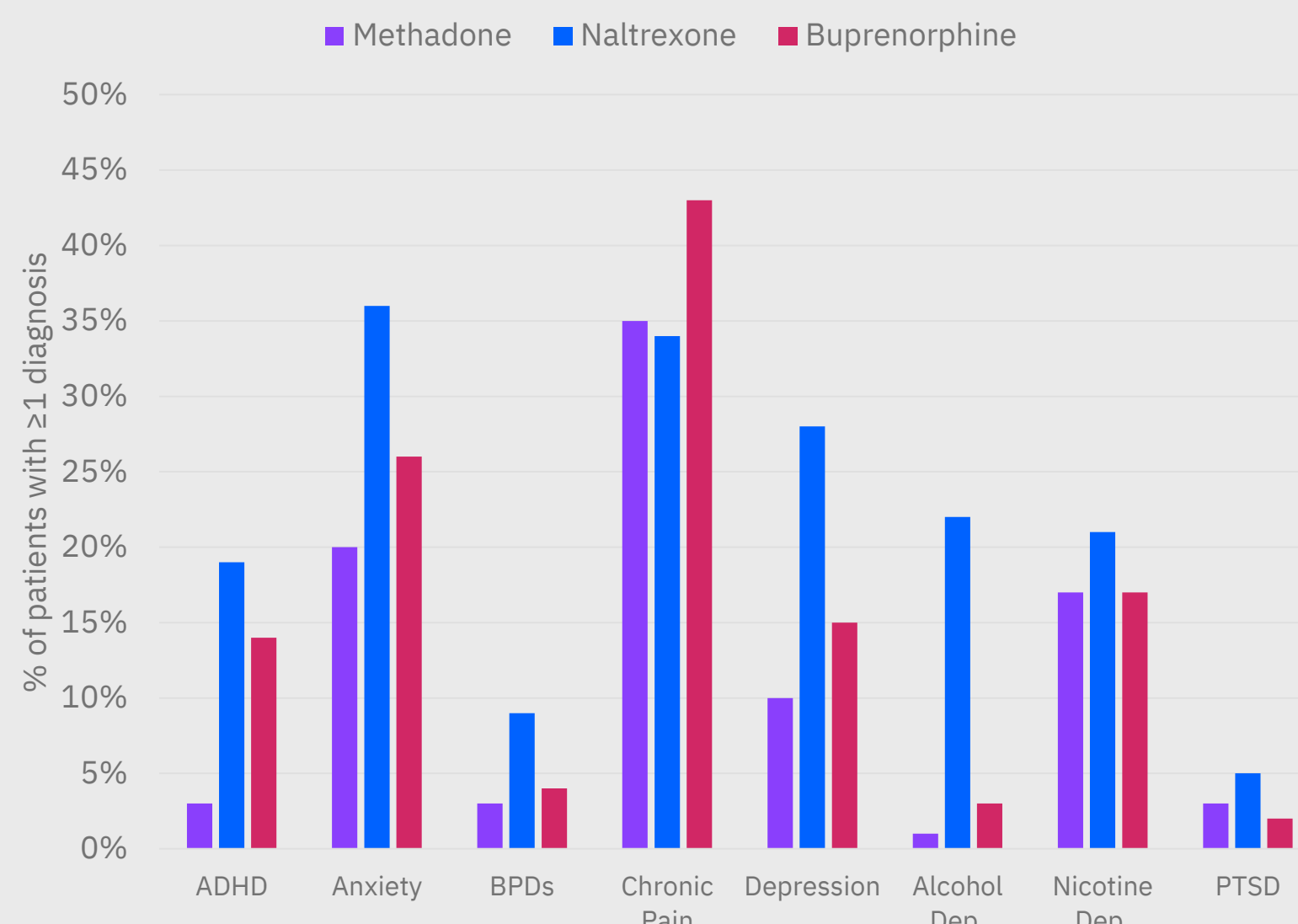
	Methadone N=992	Naltrexone N=6,975	Buprenorphine N=25,220
Age, mean years (SD)	37 (13)	32 (13)	34 (13)
Age, N (%)			
<18	5 (1%)	223 (3%)	280 (1%)
18-24	251 (25%)	3,165 (45%)	8,565 (34%)
25-31	137 (13%)	687 (10%)	3,491 (14%)
32-38	165 (17%)	730 (11%)	3,900 (16%)
39-45	147 (15%)	721 (10%)	3,113 (12%)
46-52	134 (14%)	693 (10%)	2,750 (11%)
53-59	116 (12%)	577 (8%)	2,308 (9%)
60-64	37 (3%)	179 (3%)	813 (3%)
Sex, N (%)			
Female	392 (40%)	2,862 (41%)	9,158 (36%)
Male	600 (60%)	4,113 (59%)	16,062 (64%)
Health plan type, N (%)			
Comprehensive	27 (3%)	312 (5%)	1,146 (4%)
EPO/PPO	626 (63%)	4,250 (61%)	15,559 (62%)
HMO	83 (8%)	711 (10%)	2,943 (12%)
POS/POS with capitation	114 (12%)	557 (8%)	2,220 (9%)
CDHP/HDHP	120 (12%)	1,068 (15%)	2,880 (11%)
Unknown	22 (2%)	77 (1%)	472 (2%)
Geographic region, N (%)			
Northeast	259 (26%)	1,905 (27%)	6,195 (25%)
North Central	164 (17%)	1,450 (21%)	5,282 (21%)
South	395 (40%)	2,587 (37%)	10,039 (40%)
West	174 (17%)	1,011 (14%)	3,621 (14%)
Unknown	0	22 (1%)	83 (<1%)

*On date of earliest OUD claim (index date); CDHP/HDHP, consumer-directed health plan/high-deductible health plan; EPO/PPO, exclusive /preferred provider organizations; HMO, health maintenance organization; POS, point of service; SD, standard deviation

Results, Cont.

- Median days from OUD diagnosis to treatment was longest for patients initiating naltrexone (53 days) compared to buprenorphine (9 days) and methadone (0 days), with overall mean of 138 days among all MAT groups
- Patients initiating naltrexone had higher proportions of all baseline mental health-related comorbidities, including ADHD, anxiety, depression and alcohol dependence, as compared to those initiating on buprenorphine and methadone (Figure 2)
- Overall, 41% of patients had baseline chronic pain, with the highest proportion in buprenorphine initiators (43%), as compared to methadone (35%) and naltrexone (34%) (Figure 2)

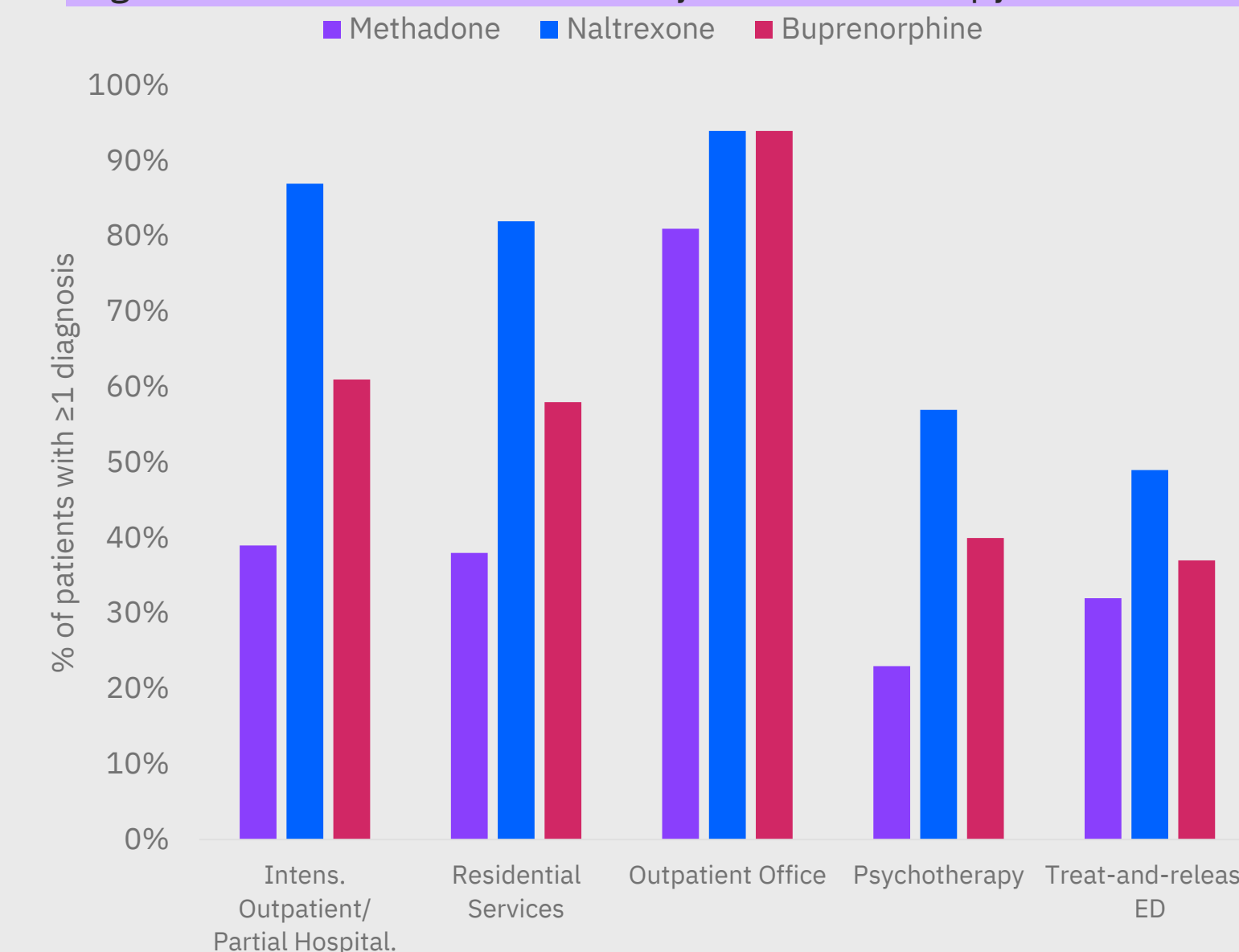
Figure 2. Baseline Comorbidities by Pharmacotherapy Initiated*



*Within 12 months prior to index OUD diagnosis; ADHD, attention-deficit hyperactivity disorder; BPDs, bipolar disorders; Alcohol Dep., alcohol dependence; Nicotine Dep., nicotine dependence; PTSD, post-traumatic stress disorder

- Among all MAT pharmacotherapy groups, less than 5% of patients received peer support, case management or detoxification/withdrawal services within 6 months of initial OUD diagnosis
- Within 6 months of index OUD diagnosis, 43% of all MAT-initiating patients received psychotherapy, of which naltrexone initiators had greater proportions and average number of services (mean=7 [SD=14]) than buprenorphine (4 [10]) and methadone initiators (2 [4]) (Figure 3)
- Naltrexone initiators had greater proportions and average number of intensive outpatient/partial hospitalization services (21 [SD=24]) than buprenorphine (8 [15]) and methadone initiators (3 [10]) during 6 months post-index (Figure 3)

Figure 3. OUD-Related Utilization by Pharmacotherapy Initiated*



*Within 6 months following index OUD diagnosis (including index date); Intens. Outpatient/Partial Hosp, intensive outpatient (meet 2-3 days a week for 3-5 hours a day including counseling, therapy, structured meal) or partial hospitalization (meet 5-7 days a week for 6-10 hours a day, supportive housing options, known as "day hospital"; Treat-and-Release ED, treat-and-release emergency department

Limitations

This analysis has conventional limitations of claims-based analyses:

- This study was based on patients with commercial health coverage, and results may not be generalizable to OUD patients with other types of insurance or without health insurance coverage
- MAT pharmacotherapy use based on pharmacy claims indicated that a drug was filled but does not confirm patients took treatment as directed
- Diagnoses on claims may be mis-coded, thereby potentially underestimating the size of the patient population

Conclusions

- This study confirms that barriers to OUD care exist, as seen by the high mean number of days from OUD diagnosis to MAT treatment, and low proportions of patients receiving peer support, case management and detoxification or withdrawal services within six months of OUD diagnosis
- Across the three MAT groups, distinct differences were found in patient characteristics and resource utilization, where naltrexone initiators tended to be younger, have higher rates of baseline mental health-related comorbidities and greater OUD-related HCRU within six months following OUD diagnosis
- Further research is warranted to assess factors contributing to barriers to MAT, decisions around initiating MAT and access to other OUD-related treatments

References

- Sharma et al. *Child Adolesc Psychiatr Clin N Am.* 2017; 25(3): 473-487. doi: 10.1016/j.chc.2016.03.002
- US DHHS. *Office of the Assistant Secretary for Planning and Evaluation (ASPE).* 2019. URL: <https://aspe.hhs.gov/basic-report/use-medication-assisted-treatment-opioid-use-disorders-employer-sponsored-health-insurance-final-report>
- Strain MD. *Pharmacotherapy for opioid use disorder.* UpToDate. Waltham, MA: UpToDate Inc. <https://www.uptodate.com/contents/pharmacotherapy-for-opioid-use-disorder#H19508929>
- NIDA. *Effective Treatments for Opioid Addiction.* 2016; <https://www.drugabuse.gov/effective-treatments-opioid-addiction-0>
- National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division. *National Academies Press (US).* 2018; doi: 10.17226/25322