

# **Reduced Robo-Readmissions:** Buprenorphine for Dextromethorphan Use Disorder Sorina B. Torrez, PharmD<sup>1</sup>; Blaire Walker, MD, FAPA<sup>2</sup>; John Weems-Embers, MD, FASAM<sup>2,3</sup>; Matt Hunt, NP-C, CARN-AP<sup>2,3</sup>



#### Background

- Dextromethorphan (DXM) is an over-thecounter antitussive and a N-methyl-daspartate (NMDA) receptor antagonist
- Exceedingly high DXM doses can lead to hallucinations, euphoria, and dissociation

#### **Case Report**

- 44 year old male experiencing homelessness
- Past medical history: Chronic lower back pain, anxiety, depression, and DXM-use disorder, using 80-200 DXM/guaifenesin 20/600 mg tablets daily (max daily recommended DXM dose: 120 mg)
- No previous history of opioid misuse or opioid use disorder
- "The change was almost immediate"

- A growing literature indicates DXM misuse amongst adolescents and adults
- There are no FDA-approved medications for DXM-use disorder
- A recent case study describes successful treatment of DXM-use disorder with naltrexone and gabapentin, which may not be practical for patients with chronic pain

### **Discussion & Conclusion**

 Studies have investigated NMDA-receptor antagonists for opioid withdrawal symptom alleviation and opioid use disorder, suggesting a link between DXM and muopioid receptors, though an exact

#### **Hospitalizations**

• Treated  $\geq$ 15 times for DXM intoxication, including intensive care unit (ICU) admission, supportive care for serotonin syndrome, and brief intubation for obtundation During the latest ICU admission, he underwent psychiatric evaluation and reported symptoms consistent with anxiety, post-traumatic stress disorder, and

#### **Treatment Timeline**



mechanism is unknown

- Buprenorphine may influence NMDA receptor signaling; through this mechanism and partial mu-opioid receptor agonism, it is possible that activity at these receptors attenuate cravings and DXM withdrawal symptoms
- This is a single case report of successful DXM-use disorder treatment with buprenorphine
- Limitations including lack of generalizability and no urine toxicology to confirm DXMabstinence
- Further research is warranted to evaluate

depression, confounded by almost immediate" severe DXM-use disorder In a shared decision-making model with the patient, buprenorphine/naloxone (BUP/NX) sublingual films were initiated for DXM-use disorder and severe, chronic musculoskeletal pain **Follow-Up** 

## the efficacy of buprenorphine in DXM-use

#### disorder

#### Affiliations

- 1. Pharmacy Addictions Research And Medicine (PhARM) Program, University of Texas at Austin College of Pharmacy | Austin, TX 2. Dell Medical School at the University Of Texas at Austin | Austin, TX
- CommunityCare Federally Qualified Health Centers | Austin, TX

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13 months after stabilizing on BUP/NX 20 mg TDD, the patient continues to follow in an outpatient clinic and has not required emergency or inpatient care

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