



XR-BUP in the CDOC: Lessons Learned from >500 injections

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BACKGROUND

The Colorado Department of Corrections (CDOC) is acutely aware of the vast psychosocial and medicolegal implications of illicit opioid use.

Nearly 1 in 4 individuals with a heroin use disorder pass through American correctional facilities annually^{1,2} and at present, roughly 20-25% of state prison inmates meet criteria for an opioid use disorder (OUD).^{3,4,5} Although the correctional system represents an important venue for targeting and treating this vulnerable population, few receive life-saving medications for opioid use disorder (MOUD).

Barriers to increasing the availability/accessibility of MOUD include staffing constraints and limitations in institutional capacity.⁶ Extended-release buprenorphine (XR-BUP) holds promise in the correctional system, as it requires monthly, rather than daily administration.

We piloted XR-BUP at Sterling Correctional Facility (SCF) to determine its safety and efficacy in the prison system. SCF is located in the northeast corner of Colorado, about ~120mi northeast of Denver. It is the largest prison in the CDOC and has the capacity to house 2,088 minimum, medium, and close custody inmates.

OBJECTIVE

To determine whether extended-release buprenorphine (XR-BUP) is a safe and effective MOUD alternative in the state prison system.

METHODS

The XR-BUP Pilot Program was conducted from 10/2021-10/2022. In total, 108 patients were enrolled in the program and 525 XR-BUP doses were administered.

XR-BUP was purchased with funding from a State Opioid Response (SOR) grant. A large bulk order for the medication was placed in 10/2021. Doses were kept on-site for the duration of the pilot, per the Risk Evaluation and Mitigation Strategy (REMS) Program. From 12/2021 to 3/2022, patients were evaluated by a provider and offered XR-BUP as an alternative MOUD, if medically appropriate. However, in 3/2022, XR-BUP became the only buprenorphine formulation available; only patients with a medical contraindication continued the sublingual formulation.

While on XR-BUP, patients were required to keep appointments with their medical provider(s), consent to urine drug screens, and otherwise follow clinic rules. If patients developed a medical contraindication while on XR-BUP, they were switched back to sublingual buprenorphine.

Although point of care urine drug screens/rapid fentanyl tests were performed regularly, patients were not removed from the program due to illicit substance use. Patients who chose to discontinue XR-BUP for were allowed to re-enroll at any time.

RESULTS

Table 1. Patient Demographics (n=108)

Age	22 to 77 years old 35.8 ± 8.65 years
Gender	108 Male (100%)
Race	84 Caucasian (77.79%) 19 Hispanic (17.59%) 4 Native American (3.70%) 1 African American (<1%)
Custody Level	51 Minimum (47.22%) 50 Medium (46.29%) 7 Close Custody (6.48%)
Medical Comorbidities	1 Geriatric/Age >65 years old (<1%) 2 Chronic Obstructive Pulmonary Disease (1.85%) 4 Obstructive Sleep Apnea (2.78%) 24 Mild to moderate transaminitis (22.22%)
Comorbid Substance Use Disorders	17 Alcohol Use Disorder (15.74%) 8 Sedative Use Disorder (7.41%) 50 Stimulant Use Disorder (47.22%) 13 Cannabis Use Disorder (12.04%)

Figure 1. XR-BUP Safety

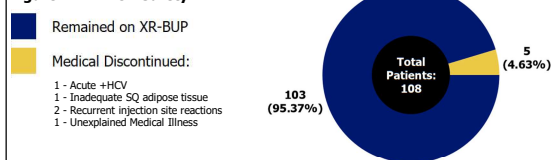


Figure 2. Urine Drug Screen Results Among Patients on XR-BUP Treatment

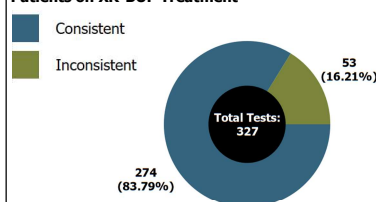
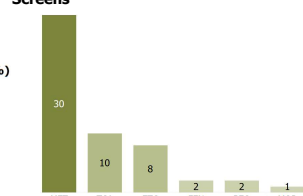
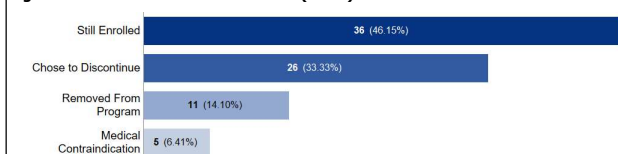


Figure 3. Frequency of Illicit Substance Use Detected in Inconsistent Urine Drug Screens



Consistent urine drug screens were positive only for buprenorphine and tricyclic antidepressants (TCA), if prescribed. From 12/2021-3/2022, 13 POC UDS were used. Rapid fentanyl test strips were added in 3/2022. In 6/2022, these were replaced by 16 POC UDS, which no longer assessed for the presence of tricyclic antidepressants (TCA), but instead included fentanyl (FEN), ethyl glucuronide (ETG), tramadol (TRA), and spice (K2).

Figure 4. XR-BUP Treatment Outcomes (n=78)



Thirty patients had been released and/or were transferred to another facility before program completion. Of the patients who chose to discontinue treatment, adverse effect was the most commonly cited complaint (34.62%), followed by upcoming release/preference for SL buprenorphine at release (11.54%) and a desire to pursue recovery without MOUD (11.54%).

DISCUSSION

Extended-release (XR-BUP) can be safely administered in the correctional setting.

At the start of the pilot program, both facility providers and nursing staff voiced concerns regarding the potential for opioid overdose. While on XR-BUP treatment, no patients experienced an overdose or other serious adverse event and/or required transfer to an outside facility for medical management.

In addition, there were also concerns about the potential for medication misuse, including the possibility of patients removing and/or subsequently injecting the medication depot. This was simply not observed in clinical practice.

Patients on XR-BUP were able to maintain sobriety from illicit opioids. Over the duration of the pilot, among patients on XR-BUP, <1% of urine drug screens were positive for heroin, fentanyl, and/or other illicit opioids.

However, our data highlights there is no one-size-fits-all approach to opioid use disorder treatment. Some patients preferred XR-BUP due to its discretion and convenience, as well as less bullying/pressure to misuse the medication. Other patients found the adverse effects associated with XR-BUP to be intolerable, although we suspect some of these patients were also less interested and ready to change compared to their peers.

Regardless of its formulation, buprenorphine is an evidence-based way to help promote recovery and save lives. As health care providers, we should encourage and embrace the use of MOUD, regardless of formulation: methadone, sublingual buprenorphine, extended-release buprenorphine, or intramuscular naltrexone.

In the future, we would advocate that XR-BUP be available to incarcerated patients, but not be the only buprenorphine formulation available. We see a role for XR-BUP among patients who would prefer the injectable formulation, who have found to be misusing their sublingual buprenorphine, and who are planned for release.

CONCLUSION

Although XR-BUP is safe and efficacious in the state prison system, it is not a one-size-fits-all treatment option. Incarcerated patients should be offered a variety of MOUD formulations.

DISCLOSURES & ACKNOWLEDGEMENTS

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