

Expanding Treatment Opportunities for Hospitalized Patients with Opioid Use Disorders

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The prevalence of opioid use disorders (OUDs) is rising across the United States. Patients with OUDs are often hospitalized for medical conditions other than addiction, such as infection, injury, or pregnancy. These hospital admissions provide an opportunity for healthcare providers to initiate opioid agonist therapy with methadone or buprenorphine. Randomized trials have demonstrated the superior effectiveness of this treatment strategy, but its adoption by hospital providers has been slow. A number of barriers have impeded its implemen-

tation, including misperceptions about the regulation of opioid prescribing, limited resources for the transition to community-based treatment, and a lack of familiarity among clinicians about the appropriate initiation and dose adjustment of these opioid agonists for maintenance therapy. We discuss changes in policy and practice to expand opportunities to engage patients with OUDs in opioid agonist treatment during their inpatient hospitalizations. *Journal of Hospital Medicine* 2017;12:XXX-XXX. © 2017 Society of Hospital Medicine

The United States is facing an epidemic of prescription opioid and heroin use, which has been linked to the escalating prescribing of opioid analgesics. Though opioid prescriptions appear to be reaching a plateau, estimates suggest there are at least 900,000 active heroin users in the United States, and this number continues to grow.¹ One response to this epidemic (through state legislation and medical society guidelines) has been a move to reduce opioid prescribing in order to diminish the potential for diversion and misuse.² However, the treatment of pain is not the sole driver of heroin epidemiology, and new strategies are also needed to better engage patients with existing opioid use disorders (OUDs) to begin treatment. These patients are increasingly hospitalized for infectious comorbidities of injection drug use, trauma, or pregnancy, and this may present a unique opportunity to initiate these patients on maintenance opioid agonist therapy, the most effective option for medication-assisted treatment (MAT) for addiction.

MISSED OPPORTUNITIES

Patients with OUDs comprise an estimated 2% to 4% of hospitalized patients, representing a disproportionately large number of inpatients.³⁻⁶ According to a recent analysis of data from the National (Nationwide) Inpatient Sample, the estimated annual number of hospitalizations associated with OUDs in the United States increased from approximately 300,000 to more than 500,000 in the decade from 2002 to 2012.⁷ Severe

bacterial infections associated with intravenous administration of opioids (including endocarditis, osteomyelitis, septic arthritis, and epidural abscess) increased substantially at an estimated cost of more than \$700 million in 2012.⁷ Over a similar period, the prevalence of opioid use among women in labor increased from 13.7 to 22.0 per 10,000 live births,⁸ and there was a corresponding rise in admissions to neonatal intensive care units for neonatal abstinence syndrome.⁹ As the prevalence of prescription drug and heroin dependence continues to rise across the United States, hospitals and clinicians find themselves on the front lines of this epidemic, creating potential opportunities to engage patients in recovery, a “treatable moment” for this vulnerable population.¹⁰

Currently, a common approach in the hospitalized patient is to attempt medically assisted withdrawal using a rapid taper of long-acting opioids. This process may appeal to healthcare providers who hope to guide their patients in transitioning to opioid abstinence. However, tapering an opioid regimen, even over a period of months, results in unacceptably high rates of relapse (as high as 70% to 90% in some studies), especially when a patient is acutely ill and symptomatic from a concurrent medical issue.¹¹⁻¹³ In the hospital setting, this treatment failure can manifest as pain and undertreated withdrawal symptoms (such as agitation, arthralgias, and gastrointestinal distress), which may hinder some patients from completing their treatment or drive some to leave against medical advice.¹⁴ Further harm may occur when an inpatient rapid taper is accomplished, putting patients at increased risk of a fatal relapse after discharge due to loss of tolerance.¹⁵

Maintenance opioid agonist therapy with buprenorphine or methadone, in which a long-acting opioid is titrated until craving and withdrawal symptoms are well controlled, is the first-line modality for MAT among patients with OUDs in outpatient settings and is associated with reduced risk of fatal overdose and all-cause mortality.¹⁶ Initiation

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and dose stabilization of agonist therapy with these agents during acute medical hospitalization has been shown to be feasible in a variety of inpatient settings.¹⁷⁻²⁰ In one trial, patients randomized to buprenorphine induction and linkage to office-based therapy during their inpatient stay were more than 5 times as likely to enter and remain in treatment after discharge when compared with those in whom buprenorphine was tapered.²⁰ International guidelines support the use of maintenance agonist therapy in this context, but this remains an underutilized strategy in recent efforts to treat OUDs in the United States.^{21,22} A few key barriers currently prevent this strategy from being applied broadly within our healthcare system.

TOWARD EVIDENCE-BASED INPATIENT MANAGEMENT

First, there is a common misconception that regulations prohibit the use of methadone and buprenorphine for opioid agonist therapy by inpatient medical providers without special certification. Title 42 of the Code of Federal Regulations (CFR) provides extensive guidance regarding the use of opioid medications by registered outpatient opioid treatment programs. However, it also contains an exemption from these rules for hospitals treating patients with emergent medical needs (21 CFR § 1306.07[c]) allowing hospital-based clinicians “to maintain or detoxify a person as an incidental adjunct to medical or surgical treatment of conditions other than addiction” without restriction. According to guidelines from the Substance Abuse and Mental Health Services Administration, this exemption applies to the use of both methadone and buprenorphine.²³

Many clinicians and hospital pharmacy departments interpret this law to limit the use of maintenance therapy in patients already enrolled in outpatient programs or to require a rapid taper over the first 3 days of hospitalization. However, these interpretations may in part be rooted in confusion with an adjacent section of the regulations (21 CFR § 1306.07[b]) directed at outpatient physicians providing time-limited, emergency treatment for withdrawal in an office setting. The application of this time limit to hospitalized patients has not been supported by communication from the Drug Enforcement Agency.²⁴ There is no case law or other regulation requiring an opioid regimen to be time limited for patients during medical hospitalization, and hospital policies need not place undue constraints on the ability of clinicians to stabilize patients on maintenance therapy and transition them to outpatient treatment.

Second, the limited capacity of existing opioid maintenance programs can lead to a gap in treatment upon hospital discharge for patients in whom methadone or buprenorphine is initiated. Health delivery systems can play a role in mitigating the impact of this resource gap. Integrating the model of screening, brief intervention, and referral to treatment into hospital admission processes and engaging social workers, addiction consult services (where available), and other supports early in the course of hospitalization can help facilitate appropriate follow-up care.^{25,26} Hospitals may also be eligible for

federal funding to strengthen local referral networks for outpatient MAT programs under Section 103 of the Comprehensive Addiction and Recovery Act passed into law in July 2016. Innovative delivery models designed to enhance integration across community stakeholders in healthcare, social services, and criminal justice have recently been developed, such as Vermont’s “Hub and Spoke” model,²⁷ Boston Medical Center’s Faster Paths opioid urgent care center,²⁸ and the police-led Angel Program in Gloucester, Massachusetts.²⁹ Implementation science studies will be needed to identify the most effective ways to engage inpatient medical teams in such efforts.

Currently, individual providers can already play a central role in providing a bridge for patients in whom a delay in beginning MAT cannot be avoided upon discharge. Interim buprenorphine maintenance treatment has been shown to dramatically decrease the use of illicit opioids among those awaiting initiation of comprehensive MAT programs and substantially increase retention in long-term treatment.^{20,30,31} With the recent expansion of the limits on buprenorphine prescriptions to 275 patients per provider (part of the waiver required under the Drug Addiction Treatment Act [DATA] of 2000 to provide outpatient buprenorphine treatment, also known as a DATA waiver), this may be an increasingly promising option for hospital discharge.

Obtaining a waiver to prescribe buprenorphine is not required for the inpatient initiation of buprenorphine therapy. However, doing so is relatively simple (requiring an online, 8-hour training [<https://www.samhsa.gov/medication-assisted-treatment/training-resources/buprenorphine-physician-training>]) and allows hospital-based providers not only to ensure optimal management of OUDs during hospitalization but also to help their patients with the next steps toward recovery after discharge. The use of buprenorphine may be challenging in some patients with significant pain as a component of their medical condition. For these patients, methadone will likely be better tolerated.

Additional funding is also urgently needed to expand the capacity of existing opioid treatment programs and create specialized discharge-transition clinics that can provide structured interim opioid therapy while patients are on waitlists for traditional MAT programs. Requiring patients who are not ready or able to begin long-term maintenance agonist therapy to rapidly taper an inpatient opioid regimen unnecessarily puts them at risk for overdose after discharge.¹⁵ Regardless of the available resources for long-term treatment within the community, hospital discharge planning should include a naloxone prescription and brief training for patients and their loved ones.³² The long-acting opioid antagonist, depot naltrexone, is another effective, alternative MAT option and is increasingly used in community settings among patients who are motivated to achieve opioid abstinence.^{33,34} It has not yet been studied among hospitalized patients, and further research is needed to determine if it could be a viable option for discharge. However, the requirement that a patient be abstinent from opioids for 7 to 10 days prior to administering the first dose of depot naltrexone may serve as

a significant barrier to its use for most hospitalized patients.

Finally, healthcare providers must be trained in the appropriate use of opioid agonist therapy. Medical schools, residency programs, and schools of pharmacy and nursing should develop curricula to expand the capacity of nonspecialists to care for patients with OUDs and to focus on judicious analgesic prescribing to prevent chronic opioid use. This curriculum should address the appropriate titration of methadone and buprenorphine for agonist therapy and address the stigma faced by patients with substance use disorders. Other important topics include the management of overdose and withdrawal symptoms, structured approaches to pain management in patients with OUDs, harm-reduction methods, and multidisciplinary care for the psychosocial and psychiatric comorbidities of addiction. Though international guidelines have been developed

for the inpatient management of patients with OUDs,^{21,22} hospitals and professional societies should take a leadership role in facilitating continuing education to disseminate them among current medical providers.

There is great potential for the leadership and front-line staff of hospital systems, with a few key changes in policy and practice, to become advocates for patients with OUDs to access treatment. As perspectives about opioid prescribing change amid efforts to limit the escalation of the current heroin epidemic, it is vital to identify opportunities to reduce opioid exposure for opioid-naïve patients and enhance the engagement of patients diagnosed with OUDs in treatment.

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