



EDUCATIONAL OBJECTIVE: Readers will consider a medication-assisted treatment program for patients addicted to opiates

JASON M. JERRY, MD*

Alcohol and Drug Recovery Center, Cleveland Clinic; Clinical Assistant Professor of Medicine, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH

GREGORY B. COLLINS, MD

Section Head, Alcohol and Drug Recovery Center, Cleveland Clinic

Medication-assisted treatment of opiate dependence is gaining favor

ABSTRACT

People addicted to opiates are more likely to avoid returning to these drugs if they participate in a program that includes taking maintenance doses of methadone or buprenorphine than with an abstinence program. Although medical opinion has long been divided on the issue of abstinence vs medication-assisted treatment, the latter seems to be gaining respect as an evidence-based approach.

KEY POINTS

Recidivism rates are high after detoxification without medication-assisted treatment.

Whether staying in a maintenance program truly constitutes recovery continues to be debated, but patients on methadone or buprenorphine maintenance do not report getting “high”—they merely feel normal.

Methadone is dispensed only in special clinics, whereas buprenorphine can be prescribed by a physician. Prescribing physicians must complete an 8-hour course online at www.buppractice.com or www.aaap.org/buprenorphine and obtain a waiver from the US Drug Enforcement Administration.

With or without medication-assisted treatment, recovering addicts must learn the skill of sober coping by actively participating in a solid 12-step-based program and, in some cases, in psychotherapy.

EXPERTS HAVE ARGUED for decades about how best to manage opiate dependence, with practitioners generally subscribing to one of two strategies: either total abstinence or medication-assisted treatment (MAT).

Although MAT has proven efficacy, it has been slow to gain acceptance, and the gold standard of care since the 1930s has been abstinence-based treatment. Among elite institutional holdouts against MAT was the Hazelden Treatment Center, a leading treatment institution and publishing house that had been wedded to the abstinence model since it was founded in 1949.¹ Now, Hazelden has gone on record as embracing MAT, raising the possibility that the two predominant treatment philosophies for opiate-dependent patients may no longer be at odds.

FROM ABSTINENCE TO METHADONE MAINTENANCE

The modern day abstinence-based movement in this country started in the decade before the founding of Hazelden. In 1935, the US government opened the first of two federal drug treatment centers, known as the United States Narcotic Farm, in Lexington, KY.² The move by the government to get into the addiction treatment business largely stemmed from frustration over the growing problem of addiction at that time, coupled with a dearth of treatment options for addicts in the wake of the 1914 Harrison Narcotics Act.

The Narcotic Farm was an impressive facility—for all intents and purposes, a specialized prison—that initially housed 1,200 people. In addition to prisoners, it also accepted voluntary, nonprisoner patients. In many ways, it

*Dr. Jerry has disclosed consulting, teaching, and speaking for Reckitt Benckiser Pharmaceuticals.

doi:10.3949/ccjm.80a.12181

The Narcotic Farm was an impressive facility—for all intents and purposes, a specialized prison

was ahead of its time. It offered a wide variety of services, including detoxification, group therapy, individual therapy, psychiatric and medical services, and vocational rehabilitation.² Housed on the premises was the Addiction Research Center at Lexington, the first intramural research branch of the National Institute of Mental Health. After the “Blue Grass” mandatory commitment laws were passed in the 1940s, even the voluntary patients were ultimately committed for a 1-year sentence at Lexington. This facility, and its sister facility in Ft. Worth, TX, would have been the envy of any modern-day abstinence-based treatment center in terms of the services offered and the long lengths of stay.

The quality of the program, as evidenced by the impressive array of services and long stays, would lead one to expect that its treatment outcomes over nearly 40 years of operation were equally stellar. However, in terms of outcomes the Farm was an abysmal failure, as shown by numerous studies demonstrating relapse rates of more than 90% in the patients discharged from it.^{2,3}

Similar frustrations at other abstinence-based treatment centers from the 1940s through the 1960s led Dr. Vincent Dole, the “father of methadone maintenance,” to conclude in 1971 that after detoxification from opiates, “human addicts almost always return to use of narcotics after they leave the hospital where they have been detoxified.”⁴ That realization inspired Dr. Dole and his wife and colleague Dr. Marie Nyswander to revisit the idea of medication-assisted treatment, an approach previously used by the morphine maintenance clinics of the early 1900s. This work led to the development of government-sanctioned methadone clinics across America and to the realization that long-term recovery was possible with medication, even without a lengthy hospital stay. For this revolutionary work on opiate addiction, Dr. Dole won the prestigious Lasker Award in 1988.

The major reason for the success of methadone was that, because of its pharmacokinetic profile, it could stabilize the patient through once-daily dosing without sedation or narcosis. As noted by Dr. Dole, once patients are on a stable dosing regimen, the obsessive preoccupation with drug use fades away.⁵

Despite its success, methadone maintenance had its share of detractors. It was fraught with controversy because it was viewed as a crutch, and those who were on it were often not considered by their abstinent peers as being in true recovery. The reasons for the negative attitudes toward MAT are unclear but may reflect antiquated beliefs that addiction may be indicative of a failure of morals or will, and that patients ought to be able to simply stop using.

Whatever the reason for the animosity surrounding MAT, it should be noted that an expert consensus panel convened by the Betty Ford Center in 2007 agreed that patients on MAT met their consensus definition of sobriety.⁶ The issue of what constitutes recovery remains a very complex and hotly debated topic that is beyond the scope of this paper and that has been discussed elsewhere.^{6,7}

For more than 3 decades, methadone was the only medication available for MAT. Federal regulations limit the dispensing of methadone to licensed clinics, most of which are located in major metropolitan areas. Patients must go to the clinic every day to receive their dose of methadone—a major inconvenience, especially to those with transportation issues. Adding to the lack of appeal of methadone maintenance is that the clinics are typically located in the higher-crime areas of cities. Savvy drug dealers know the location of these clinics and often loiter on nearby street corners in an attempt to lure addicts away from recovery by flaunting their illicit drugs.

A final, very significant drawback of methadone is its safety profile. It is a full-agonist narcotic that can be fatal in overdose or in the induction phase, especially if taken with other drugs, such as benzodiazepines.

■ 2003: BUPRENORPHINE-NALOXONE IS APPROVED

Such concerns led researchers to search for other medications to be used for MAT that could perhaps be prescribed in a typical outpatient physician practice. For many reasons, buprenorphine became the most promising candidate. In 2003, the US Food and Drug Administration approved the combination medication buprenorphine-naloxone (Sub-

oxone) as only the second drug indicated for maintenance treatment of opioid dependence in the United States.

Buprenorphine differs from methadone in that it is a partial agonist at mu opiate receptors, and therefore has a “ceiling” or “plateau” effect in terms of dose-response and a much improved safety profile. Unlike methadone, buprenorphine can be prescribed in a doctor’s office and does not have to be dispensed at a government-approved clinic.

Unfortunately, buprenorphine-maintained patients seem to carry the same stigma in the recovery community as those maintained on methadone—that they are simply substituting one drug for another. Detractors usually fail to consider that, as with methadone, patients do not report getting “high” from taking buprenorphine. Patients will often state that when they first start taking it, they “feel something,” but after a few days of adjustment, they simply feel normal. They don’t feel high, they are no longer in withdrawal, their cravings are virtually eliminated, and their opiate receptors are effectively occupied and blocked, so there is no “high” in the event of a relapse.

What’s more, buprenorphine is not a medication that will help them deal with life’s stressors by “chemical coping.” Sober coping is a skill they must learn by actively participating in a solid 12-step-based recovery program and, in some cases, in psychotherapy. By removing the drug obsession, buprenorphine promotes and facilitates the important recovery goal of learning how to deal with life on life’s terms.

■ ADDICTION AS CHRONIC ILLNESS

Outcomes studies of addiction treatment have focused largely on rates of relapse after discharge from acute treatments such as residential rehabilitation, partial hospitalization, and intensive outpatient programs. With MAT, however, outcomes research has primarily looked at the duration of retention in treatment.

The change in focus between the two types of treatment coincides with a paradigm shift that views addiction as a chronic condition that requires ongoing care. Continued participation in prescribed care with demonstrated efficacy is considered to be the major indicator of success. Under the chronic illness model

employed by MAT providers, if a patient reverted to briefly using a drug of abuse, this would be an issue to address in his ongoing treatment and would not necessarily indicate treatment failure as with the acute care model. Beyond retention rates, research has demonstrated that MAT with methadone results in reductions in rates of criminal activity, illicit drug use, acquisition of human immunodeficiency virus, and overall mortality.⁸⁻¹⁰

In outcomes studies, MAT has repeatedly shown better efficacy than abstinence-based approaches. During the first 5 years of its implementation, in 4,000 patients, methadone maintenance boasted 1-year retention rates exceeding 98%.¹¹ Over the subsequent 3 years, with the number of patients approaching 35,000, the 1-year retention rates fell to around 60%—still far exceeding results of abstinence-based treatment and approximating the number cited in most modern studies.¹¹

The retention rates in buprenorphine programs are similarly promising. Studies of 12 to 13 weeks duration have shown retention rates of 52% to 79%.¹²⁻¹⁵ Six-month studies have demonstrated retention rates of 43% to 100%.¹⁶⁻¹⁹ Another study showed that 38% of opiate-dependent patients remained in treatment with buprenorphine at 5 years.²⁰ Surprisingly, most of the buprenorphine studies have been conducted in office-based practices, which are less structured than outpatient methadone programs.

■ MEDICATION-ASSISTED TREATMENT IS GAINING ACCEPTANCE

Data from decades of experience with MAT strongly support the conclusion that it is superior to abstinence-based approaches.

The importance of a patient staying in treatment cannot be overemphasized, as the consequence of failing in recovery may well be an early death. On average, heroin addicts lose about 18 years of life expectancy, and the mortality rate for injection users is roughly 2% per year.²¹ The mortality rate for heroin users is 6 to 20 times greater than for age-matched peers who are not drug users.²²

As high as these numbers are, they are even higher for abusers of prescription narcotics. The annual death rate associated with opi-

Although medication-assisted treatment has proven efficacy, it has been slow to gain acceptance

oid pain relievers (4.8 per 100,000) is nearly double that associated with illicit drugs (2.8 per 100,000).²³

The recent and rather radical change in treatment philosophy by Hazelden came as a shock to some, a disappointment to others, and a welcome change to many who saw this as a move by one of the more respected treatment centers in the country to fall in line with the body of evidence that supports MAT for those suffering from opiate dependence. It remains a mystery why so many, if not most, addiction treatment centers in the United States cling to the abstinence-based philosophy despite the overwhelming data from decades of research and experience that show that abstinence does not work for the majority of opiate addicts.

Complete abstinence from opiate drugs of abuse and potentially addictive medications is a noble but perhaps unreachable goal for many sufferers. Hazelden's announced acceptance of MAT gives credence to the value of recovery goals that are not entirely drug-free.

Dr. Dole was correct in stating that opiate addicts usually return to drugs if not provided with MAT. Treatment programs need to inform opiate-dependent patients that abstinence-based treatment offers only a 1 in 10 chance of success. Perhaps some patients, armed with the daunting statistics regarding abstinence, will be inspired to devote themselves wholeheartedly to their recovery in an effort to make it into that elite 10% group that achieves long-lasting recovery without the aid of medications. But for the other 90%, it is encouraging to hear that Hazelden, the model treatment center for most abstinence-based programs in this country, may now lead other abstinence-based centers to reconsider their treatment philosophies.

Historically, US doctors were not allowed by federal law to prescribe opiates for addiction treatment. With the passage of DATA 2000, buprenorphine (alone or in combination with naloxone) can be prescribed for addiction treatment only by providers who obtain a waiver from the US Drug Enforcement Administration (DEA). Any doctor can become qualified to prescribe buprenorphine or buprenorphine-naloxone after completing an 8-hour online training course (available at www.buppractice.com and at www.aaap.org/buprenorphine) and

by obtaining a DATA 2000 waiver and a new prescribing number from the DEA. Doctors are initially limited to treating only 30 patients with buprenorphine-naloxone at any given time, but can apply for an extension to 100 patients after having had their waiver for 1 year.

As MAT continues to gain favor, demand will grow for more providers to obtain their waivers to prescribe buprenorphine and buprenorphine-naloxone. Historically, there have always been too few methadone clinics to meet the demand. One can hope that the growing number of waived providers will greatly improve access to care by opiate addicts, no matter where they reside. Qualified prescribers of buprenorphine and buprenorphine-naloxone are limited by the federal restrictions on the numbers of patients they can treat. If the chronic disease of addiction is to be integrated into the continuing-care approach of modern medicine and managed alongside other chronic diseases, primary care providers who are not specialized in treating addiction will need to become comfortable with maintaining patients on buprenorphine-naloxone.⁷ Presumably, such patients will have already been stabilized through participation in addiction treatment programs in their respective geographic areas. Primary care providers will need to develop relationships with local addictionologists and treatment programs so that they will be able to refer those in active addiction for induction and stabilization on MAT and will be able to refer those already stabilized on MAT back to such specialists when relapses occur.

We may finally be approaching a time when structured residential treatment and MAT are not mutually exclusive options for our patients. These treatment options must work together for optimal outcomes. Based on our experience with hundreds of patients at Cleveland Clinic's Alcohol and Drug Recovery Center, we believe this change of treatment philosophy is long overdue. In clinical settings, patients do not fit cleanly into one treatment arm or another and often require a blended approach to effect long-lasting change. Hazelden's shift of treatment philosophy is an indication that this research-supported viewpoint is gaining acceptance in the traditionally drug-free halls of addiction treatment programs. ■

Heroin addicts lose about 18 years of life expectancy, and the death rate for injection users is roughly 2% per year

REFERENCES

1. **White WL.** Slaying the Dragon. The History of Addiction Treatment and Recovery in America. Bloomington, IL: Chestnut Health Systems/Lighthouse Institute; 1998:124–125,201.
2. **Kosten TR, Gorelick DA.** The Lexington narcotic farm. *Am J Psychiatry* 2002; 159:22.
3. **Hunt GH, Odoroff ME.** Followup study of narcotic drug addicts after hospitalization. *Public Health Rep* 1962; 77:41–54.
4. **Dole VP.** Narcotic addiction, physical dependence and relapse. *N Engl J Med* 1972; 286:988–992.
5. **Dole VP.** Implications of methadone maintenance for theories of narcotic addiction. *JAMA* 1988; 260:3025–3029.
6. **Betty Ford Institute Consensus Panel.** What is recovery? A working definition from the Betty Ford Institute. *J Subst Abuse Treat* 2007; 33:221–228.
7. **McLellan AT.** Have we evaluated addiction treatment correctly? Implications from a chronic care perspective. *Addiction* 2002; 97:249–252.
8. **Grönbladh L, Ohlund LS, Gunne LM.** Mortality in heroin addiction: impact of methadone treatment. *Acta Psychiatr Scand* 1990; 82:223–227.
9. **Ball JC, Lange WR, Myers CP, Friedman SR.** Reducing the risk of AIDS through methadone maintenance treatment. *J Health Soc Behav* 1988; 29:214–226.
10. **Martin J, Zweben JE, Payte JT.** Opioid maintenance treatment. In: Ries RK, Fiellin DA, Miller SC, Saitzed R, editors. *Principles of Addiction Medicine*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins, 2009:671–688.
11. **Dole VP, Nyswander ME.** Methadone maintenance treatment. A ten-year perspective. *JAMA* 1976; 235:2117–2119.
12. **Cunningham C, Giovanniello A, Sacaju G, et al.** Buprenorphine treatment in an urban community health center: what to expect. *Fam Med* 2008; 40:500–506.
13. **Fiellin DA, Pantalon MV, Pakes JP, O'Connor PG, Chawarski M, Schottenfeld RS.** Treatment of heroin dependence with buprenorphine in primary care. *Am J Drug Alcohol Abuse* 2002; 28:231–241.
14. **Fudala PJ, Bridge TP, Herbert S, et al; Buprenorphine/Naloxone Collaborative Study Group.** Office-based treatment of opiate addiction with a sublingual-tablet formulation of buprenorphine and naloxone. *N Engl J Med* 2003; 349:949–958.
15. **O'Connor PG, Oliveto AH, Shi JM, et al.** A randomized trial of buprenorphine maintenance for heroin dependence in a primary care clinic for substance users versus a methadone clinic. *Am J Med* 1998; 105:100–105.
16. **Fiellin DA, Pantalon MV, Chawarski MC, et al.** Counseling plus buprenorphine-naloxone maintenance therapy for opioid dependence. *N Engl J Med* 2006; 355:365–374.
17. **Moore BA, Fiellin DA, Barry DT, et al.** Primary care office-based buprenorphine treatment: comparison of heroin and prescription opioid dependent patients. *J Gen Intern Med* 2007; 22:527–530.
18. **Mintzer IL, Eisenberg M, Terra M, MacVane C, Himmelstein DU, Woolhandler S.** Treating opioid addiction with buprenorphine-naloxone in community-based primary care settings. *Ann Fam Med* 2007; 5:146–150.
19. **O'Connor PG, Oliveto AH, Shi JM, et al.** A pilot study of primary-care-based buprenorphine maintenance for heroin dependence. *Am J Drug Alcohol Abuse* 1996; 22:523–531.
20. **Fiellin DA, Moore BA, Sullivan LE, et al.** Long-term treatment with buprenorphine/naloxone in primary care: results at 2-5 years. *Am J Addict* 2008; 17:116–120.
21. **Smyth B, Hoffman V, Fan J, Hser YI.** Years of potential life lost among heroin addicts 33 years after treatment. *Prev Med* 2007; 44:369–374.
22. **Sporer KA.** Acute heroin overdose. *Ann Intern Med* 1999; 130:584–590.
23. **Centers for Disease Control and Prevention (CDC).** Vital signs: overdoses of prescription opioid pain relievers—United States, 1999–2008. *MMWR Morb Mortal Wkly Rep* 2011; 60:1487–1492.

ADDRESS: Jason M. Jerry, MD, Cleveland Clinic, Alcohol and Drug Recovery Center at Lutheran Hospital, 1730 West 25th Street, 2A, Cleveland, OH 44113; e-mail: jerryj@ccf.org