The percentage of individuals admitted to substance abuse treatment programs in the United States who have a primary diagnosis of opioid use disorder rose from 12% in 1992 to 18% in 2001, and admission of individuals abusing prescription narcotic painkillers increased more than 2-fold between 1995 and 2002. Approximately 1200 opioid treatment programs with a total of approximately 200,000 treatment slots manage the estimated 898,000 Americans with chronic opioid dependence, and some US states have no such programs in place.

PURPOSE: To review important principles in the treatment of opioid dependence drawn from experience within methadone-based comprehensive programs, and suggest how strategies can be adapted and applied to buprenorphine maintenance within office-based practice settings.

EPIDEMIOLOGY: The percentage of individuals admitted to substance abuse treatment programs in the United States with a primary diagnosis of opioid use disorder rose from 12% in 1992 to 18% in 2001, and admission of individuals abusing prescription narcotic painkillers increased more than 2-fold between 1995 and 2002. Approximately 1200 opioid treatment programs with a total of approximately 200,000 treatment slots manage the estimated 898,000 Americans with chronic opioid dependence, and some US states have no such programs in place.

REVIEW SUMMARY: A new opportunity exists for primary care and psychiatric practitioners to treat opioid dependence using buprenorphine maintenance in the office-based practice setting. However, many candidates for treatment will require services above and beyond simply receiving the agonist medication. Principles developed over 40 years of experience in comprehensive opioid treatment programs using methadone can be applied or adapted for the practice of office-based buprenorphine maintenance to optimize outcome.

TYPE OF AVAILABLE EVIDENCE: Prospective, randomized, placebo-controlled clinical trials; nationally recognized treatment guidelines; national epidemiological surveys; prospective and retrospective cohort studies; meta-analyses.

GRADE OF AVAILABLE EVIDENCE: Good.

CONCLUSION: By carefully selecting patients, clearly communicating positive expectations, structuring treatment with evidence-based methodologies, and making appropriate referrals, the office-based clinician providing buprenorphine maintenance can optimize outcome and treatment satisfaction for the patient, physician, and office staff.

A BACKGROUND ON ADDICTION THERAPY

Langenbucher noted more than a decade ago that the "demand to reduce waste and reduce healthcare expenditures challenges the historic gulf between general medical practice and the management of addictive behaviors." In fact, it was found that patients on buprenorphine therapy showed superior compliance with antiretroviral therapies than did patients not concurrently treated for opioid dependence. Methadone and other approved agonist medications are widely regarded as among the most effective interventions available for the treatment of opioid dependence. Unfortunately, availability of this intervention remains critically low compared with its demand. One reason is that for over 30 years subsequent to the inception of methadone maintenance treatment, access to longer-term treatment with agonist medications was by law limited to a relatively small subset of "specialty" substance abuse programs, commonly called "Opioid Treatment Programs" or OTPs. There are approximately 1200 OTPs in the United States that provide treatment slots for approximately 200,000 patients, which is less than one quarter of the estimated 898,000 individuals estimated to suffer from both serious and persistent opioid dependence; 6 states do not offer longer-term treatment, including methadone or other agonist medications, at all. Resolving the mismatch between the limited availability and the daunting need for appropriately combined medication and psychosocial treatment services remains an enormous clinical and public health challenge.

Successful efforts to meet this growing challenge ultimately will require changes in healthcare policies, healthcare delivery, and related improvements to both public funding and insurance reimbursement for substance abuse treatment services. One very significant step in this direction recently was taken when the federal government passed the Drug Addiction Treatment Act of 2000 (Public Law 106-310, “DATA 2000”), which made it possible for physicians outside of OTP settings to prescribe Schedule III, IV, and V narcotics (methadone remains Schedule II) for opioid dependence. In 2002 the US Food and Drug Administration approved the use of 2 sublingual formulations of a Schedule III synthetic opioid for treatment of opioid dependence: buprenorphine and buprenorphine in combination with naloxone. Now, literally hundreds of thousands of physicians in medical and psychiatric office-based practice settings across the country can gain approval to prescribe buprenorphine to patients with opioid dependence. This set of developments can meaningfully increase the availability of opioid agonist-supported treatment services for opioid dependence.

Buprenorphine, like methadone, is cross-tolerant with other opioids. At adequate doses, buprenorphine significantly reduces or eliminates opioid withdrawal symptoms, and clearly blunts the reinforcing effects of self-administered heroin and other narcotics. Unlike methadone, which must be administered daily,

Table 1. Examples of Medical Complications Associated With Chronic Heroin Use

- Infectious diseases (HIV/AIDS, hepatitis B and C)
- Vascular damage (scarring, thrombosis, lymphatic obstruction)
- Skin and soft-tissue infections (cellulitis, abscesses, septic thrombophlebitis, pyomyositis, pseudoaneurysms)
- Sexually transmitted infections (chlamydia, gonorrhea, syphilis, chancroid, herpes)
- Pulmonary disease (pneumonia, tuberculosis)
- Other infections (bacteremia, osteomyelitis, septic arthritis, infectious endocarditis)
- Renal failure
- Neurologic complications (seizures, mononeuropathies, meningitis, abscesses, aneurysm)
- Immunologic (thrombocytopenic purpura)
buprenorphine can be administered less frequently with generally good results. As a partial mu opiate agonist, buprenorphine also conveys less abuse potential than do methadone and other narcotics, particularly when the combination product (buprenorphine + naloxone) is used. Fatal overdose with buprenorphine is considerably less likely than with methadone. The lower abuse liability and overdose potential already have contributed to buprenorphine becoming the “first-line” choice of agonist medications in several parts of the world.

Although only recently approved for use in the United States, buprenorphine has undergone more extensive field experience in other countries—France being of particular note. In 1986 selected regions began using buprenorphine on a limited basis, and by 1996 its use was approved for all physicians throughout France. Payment for treatment is fully covered by social security in France, as opioid dependence is considered by the healthcare system to be a chronic illness. French physicians also may prescribe buprenorphine without the requirement of any specialty educational program or special licensing. The maximum number of take-home doses is 7 (physicians can override this rule), and there is no requirement for urine testing. It is possible for French pharmacies to provide daily supervised dosing of buprenorphine when specified by the prescribing physician.

A 1999 regional study in France revealed that 20% of the general practitioners (comprising 96% of all buprenorphine prescribers) provided buprenorphine treatment and, of those, 84% had 5 or fewer patients. Generalizing from those regional data, it is estimated that about 20,000 practicing physicians in France are currently prescribing buprenorphine to 70,000 patients. This growing use of buprenorphine by French general practitioners is thought to be at least partially responsible for the 79% drop in deaths from overdose from 1995 to 1999.

Physicians in the United States who wish to provide office-based opioid agonist treatment (OBOT) are required by law to complete an 8-hour live or Internet-based continuing medical education approved training course on the use of buprenorphine for treatment of opioid dependence. The legislation limits each practitioner to 30 current OBOT patients and requires OBOT settings to have a documented ability to refer patients to other providers for additional counseling or monitoring when clinically indicated. Of course, OBOT settings are permitted to provide these added services rather than establish referral agreements with other providers. The training course provides ample information on pharmacology and prescribing guidelines, which have been supplemented by a growing number of published articles and chapters on basic prescribing protocols and regulatory considerations.

Much of this information is derived from years of basic and applied research with buprenorphine as an agonist treatment for opioid dependence. Understanding this work will help practitioners administer the medication safely and effectively.

The introduction of OBOT represents an important advancement in the field and a unique opportunity for primary care and psychiatric clinicians to provide an effective intervention to their opioid-dependent patients who otherwise might not have access to such services. This article extends earlier work in this area by focusing on a small but useful set of therapeutic guidelines and principles that can improve patient response to buprenorphine. These recommendations are widely accepted as best practice standards in the treatment of opioid dependence, and each is amenable to use in OBOT settings. Whereas the relative importance of these practice standards to OBOT settings has not been specifically established, there is little reason to believe that these core treatment guidelines are limited to specialized addiction treatment settings. The principal features of persistent moderate to severe opioid dependence are unlikely to be meaningfully changed by providing agonist medication in one versus another type of treatment setting. This is particularly true of the complex behavioral manifestations of the disorder (ie, continued co-occurring drug use) that routinely constitute the more vexing problems to clinicians.

Treatment of chronic opioid dependence has largely been based on more than 40 years (in particular the last 20 years) of experience in OTP settings. Despite the strong empiric base that now exists, a great many biases remain in the field. At least 3 biases are evident in the remainder of this review, beginning with the view that the therapeutic principles and guidelines presented below apply in both OTP (without enhanced counseling) and OBOT settings. These authors could not find a single report showing meaningful differences in the treatment course or response of patients receiving opioid agonist medications in (nonenhanced) OTP versus OBOT practice settings, despite numerous differences that exist between the settings and between individuals offered treatment via each site. Secondly, there is no compelling evidence that differences between agonist-based medications for opioid dependence change either the core features of the disorder or the basic recommendations for maximizing patient response to agonist medication. Lastly, these authors contend that in substance abuse treatment, as in other medical disciplines, clinical knowledge and procedures acquired in one type of setting (eg, hospital-based surgery) routinely inform practice models in alternative settings (eg, ambulatory surgery centers). It follows that the most basic principles developed to maximize...
patient response to methadone in OTP settings apply to the use of methadone and other agonists—even when used in OBOT settings.

**CORE THERAPEUTIC PRINCIPLES**

Three basic therapeutic guidelines and principles were selected for inclusion in this review. The first core principle is that individual differences are commonplace in samples of opioid-dependent patients and that some of these differences have important prognostic implications. Using some individual difference variables to select patients most likely to respond well to the scope and range of services available in OBOTs is a rational and practical “patient-treatment” matching approach for practitioners. The 2 remaining core therapeutic principles that can be used to help maximize response to opioid agonist medications stress the utility of: 1) clinical strategies that combine and integrate appropriate doses of an agonist medication with appropriate amounts (“doses”) of counseling and patient monitoring; and 2) behavioral contingencies that motivate good patient adherence to empirically selected treatment services.

**PRINCIPLE #1: INDIVIDUAL DIFFERENCE VARIABLES: PROGNOSIS AND PATIENT-TREATMENT MATCHING**

According to the US Substance Abuse and Mental Health Services Administration recommendations, buprenorphine maintenance is indicated for persons with opioid physical dependence (Table 2) who: have no known medical contraindications to the medication; who provide informed consent to such treatment, including review of available treatment options; and who can be expected to adhere to the overall plan of care.

Most patients, however, have developed the chronic form of opioid dependence. This important commonality aside, there are many ways these individuals differ. For example, a substantial proportion of patients presenting for treatment of opioid dependence have other medical or psychiatric conditions, and/or co-occurring substance use disorders. A large-scale survey of new admissions to a community OTP in Baltimore placed the prevalence of substance use disorders (lifetime/ current) at 77% (44%) for cocaine, 63% (27%) for alcohol, and 58% (18%) for sedatives; 19% (4%) meet formal criteria for mood disorder. Even among those who use only heroin or other opioids, the severity of disorder can vary greatly. Some patients have had multiple past episodes of treatment with or without agonist maintenance, whereas others are relatively naive to substance abuse treatment. Among those who have undergone past treatment, achievement of abstinence from drugs of abuse and rates of relapse vary. Social circumstances differ among patients (eg, housing, social supports, employment, distance to medical providers, and past or current legal problems). In addition, expectations among patients regarding treatment as well as motivation to participate actively in treatment and engage in a range of challenging recovery activities may differ substantially.

A growing number of clinical characteristics have been associated with response to agonist treatment in this population. One study was the first to demonstrate that predictors of treatment success appear largely similar among medications used for opioid agonist maintenance (ie, methadone, buprenorphine). A track record of good adherence for somatic treatment interventions, involvement with drug-free friendships and supportive family members, and sustained employment are generally predictive of a positive treatment response. Extensive history of legal difficulties and incarceration, problems obtaining adequate transportation, and unstable housing are good examples of some of the characteristics associated with inferior response. Though office-based versus OTP settings may naturally attract fewer patients who face obstacles in these areas, a substantial number will nonetheless present with some of the difficulties noted above (Table 3).

<table>
<thead>
<tr>
<th>Table 2. Criteria for Opioid or Other Substance Dependence</th>
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<tr>
<td>A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by 3 or more of the following, occurring at any time in the same 12-month period:</td>
</tr>
<tr>
<td>1. Tolerance: (a) need for markedly increased amounts of the substance to achieve intoxication or desired effect or (b) markedly diminished effect with continued use of the same amount of the substance</td>
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<td>2. Withdrawal: (a) characteristic withdrawal syndrome for the substance or (b) the same substance is taken to relieve or avoid withdrawal symptoms</td>
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<td>3. Substance is often taken in larger amounts or over a longer period than was intended</td>
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<td>4. Persistent desire or unsuccessful efforts to cut down or control substance use</td>
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<td>5. Great deal of time spent in activities necessary to obtain the substance, use the substance, or recover from its effects</td>
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<td>6. Important social, occupational, or recreational activities given up or reduced because of substance use</td>
</tr>
<tr>
<td>7. Continued substance use despite knowledge of having a persistent or recurrent physical or psychologic problem that is likely to be caused or exacerbated by the substance</td>
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Factors Predicting a More Robust Treatment Response

1. No co-occurring substance use problems, particularly cocaine, alcohol, and sedatives
2. History of successful opioid agonist maintenance (particularly transfer of currently stable methadone patients receiving ≤30 mg/day)
3. No co-occurring major psychiatric illness (e.g., mood disorder, schizophrenia, severe anxiety disorders) or personality disorder
4. Strong network of drug-free, positive social supports
5. Full-time gainful employment

Factors Indicating More Intensive Psychosocial Treatment Is Needed

1. Severe co-occurring substance use or other psychiatric conditions
2. Untreated or poorly managed chronic pain
3. No co-occurring major psychiatric illness (e.g., mood disorder, schizophrenia, severe anxiety disorders) or personality disorder
4. Strong network of drug-free, positive social supports
5. Full-time gainful employment

**Table 3. Monitoring and Predicting Treatment Response**

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**PRINCIPLE #2: COMBINING AND INTEGRATING AVAILABLE INTERVENTIONS**

The chronic form of substance dependence is best viewed as a persistent problem with waxing and waning symptoms over time. Periodic lapse to drug use is the rule rather than the exception for this group of patients, not unlike patients with other chronic medical conditions. Therapeutic approaches that routinely combine effective interventions (e.g., medications, counseling, and behavioral reinforcement) at varying “doses” based on objective indicators of clinical response can substantially reduce both the frequency and severity of this problem. Three types of interventions have been shown to reduce drug use and its associated problems: 1) opioid agonist medications; 2) verbal counseling/therapy; and 3) behavioral contingencies on drug use and attendance to scheduled counseling/therapy sessions.

**Pharmacotherapies.** Opioid agonists such as methadone and buprenorphine are highly effective at reducing opioid use. However, as many as 60% of urinalyses for patients receiving moderate to higher doses of methadone and buprenorphine continue to be positive, suggesting the need for additional therapies. A controlled clinical trial by Woody et al.66 more recently evaluated the potential benefit of using “high doses” (e.g., 120 mg) of methadone with and without “higher doses” of counseling (at least once per week of individual counseling) for patients with continued heroin use despite standard care services for 6 months’ duration or longer. The results showed no benefit from the high methadone dose condition, though some benefit was observed for higher amounts of routine counseling. Perhaps most interesting, a large proportion of patients in the high methadone dose condition ultimately refused to take 120 mg or more of methadone. These findings suggest that continuing use of heroin was more strongly related to factors other than opioid tolerance or withdrawal symptoms.57-60

**Verbal-Expressive Treatments.** Both routine drug abuse counseling and many forms of professional psychotherapy have been proven useful in managing continued heroin and other drug use in patients taking opioid agonist medications, and can help restore good psychosocial functioning.52-65 The benefits of most therapies is often dose related, but poor patient attendance to routine or specialized therapies may substantially moderate expected benefits.51-60 Strategies that increase patient attendance to counseling will likely enhance the benefits of these and other prescribed interventions.50-60

In a study of opiate-dependent patients on methadone maintenance who were randomized to receive no counseling, standard amounts of counseling, or counseling plus additional enhanced services, 69% of the no-counseling group required protective transfer from the trial owing to clinical instability (vs 41% of the standard counseling and 19% of the enhanced group). The group that received enhanced services showed significantly better outcomes than did the standard group.61

In a randomized clinical trial of an intervention intended to motivate adherence to counseling sessions among patients in opiate agonist maintenance (ie, “Motivated Stepped Care,” described below) assignment to the intervention group was associated with a higher rate of adherence to scheduled counseling sessions (83%) as compared with a standard care comparison group (44%), and translated into a much lower rate of poor treatment response (46% vs 79%). Patients who were protectively transferred from the standard care to the intervention group showed large increases in attendance of individual and group counseling sessions (from 63% to 94% and 19% to 72%, respectively). This improvement in counseling adherence was associated with reductions in the percentage of opiate (from 40% to 26%) and “any” (74% to 54%) urine-positive specimens.60

**Behavioral Contingencies.** Behavioral reinforcement procedures can help motivate adherence to prescribed therapies and reduction of drug use. Contingency contracting operates according to the principles of reinforcement. For example, many patients routinely come to OTPs to receive their medication, but fail to remain in the building long enough to attend a scheduled counseling session. Contingency contracting can be used to increase counseling attendance by linking it to something that is more clearly reinforcing to many of these patients (ie, agonist medication).70-74

Each of these categories of intervention (pharmacotherapies, verbal treatments, and behavioral contingencies)
Principle #3: Adjusting Intensity of Treatment and Reinforcing Adherence

Experience has shown that, as with other medical disorders, adequate treatment of chronic opioid dependence often requires recurrent periods of more intensive intervention (e.g., increased doses of medication, counseling, and general clinical monitoring). Another commonality is that the effectiveness of most interventions is substantially limited by poor adherence to prescribed services. Implementing treatment approaches that routinely monitor clinical status, adjust the prescribed range and intensity of prescribed services, and employ behavioral reinforcement strategies to motivate patient adherence is perhaps the greatest challenge for the field, and one that is clearly applicable to OBOT settings.

This general approach to treatment has been referred to as “Adaptive Treatment Interventions” and exemplifies an integrated approach to treatment that can effectively combine the 3 core principles of treatment for opioid dependence.25-37 Adaptive treatments use ongoing indicators of clinical status to adjust both the scope and amount of prescribed empirically based services over time—prescribing more care for patients with poorer response and less for those doing well; they also include motivational interventions to increase treatment adherence. A type of adaptive model referred to as “stepped care” is commonly used in general medical practice and is guided by the overarching goal of providing the least amount of care necessary to help patients initiate and sustain good clinical response over time.25-37

An example of a stepped care treatment model shown to be particularly effective in the setting of a community-based OTP is called “motivated stepped care” (MSC). This model has been evaluated in a series of randomized clinical trials supported by the National Institutes of Health.25,51-30,37 In this model, the level of intensity (step) of treatment is adjusted based on ongoing and objective clinical indicators. Importantly, the indicators chosen in the MSC model are objective (e.g., urinalysis results and session attendance), and rules applied for adjusting treatment intensity based on these indicators are determined a priori—movement between steps of differing treatment intensity are consistent and predictable for staff and patients. Behavioral contingencies are built into the model at all steps of care. Patients are routinely educated and reminded that continued lack of adherence to prescribed treatment schedules and goals will ultimately result in discharge (against medical advice), preceded by a gradual withdrawal of opioid agonist maintenance. Readmission is guaranteed within as little as 24 hours upon commitment to reengage in treatment at the highest level of treatment intensity. A recently published randomized clinical trial involving 127 consecutive admissions demonstrated that the MSC model, when used for patients receiving methadone maintenance, increased treatment adherence and reduced drug use without sacrificing retention.75 These research findings identify several methods for delivering treatment using adaptive strategies that can be modified in any number of ways for use in an OBOT setting.

Application to Office-Based Settings

Thus far the discussion of these therapeutic principles—use of prognostic indicators in patient selection, combining and integrating a variety of proven clinical interventions, and adjusting intensities (doses) of these intervention while motivating patient adherence—have relied on experience drawn from OTP settings using methadone because, until recently, that has been the only setting for offering longer-term agonist medications in the United States. These principles can be refined and adapted for use in OBOT settings to optimize treatment response in ways that are acceptable to both patients and staff.

Strategy #1: Utilize Major Prognostic Indicators to Inform Patient Selection

It is important to consider how each individual factor may be differentially associated with treatment outcome in a specific treatment setting. By “treatment outcome” we refer to achieving periods of abstinence from drug use and movement toward a rehabilitated lifestyle. Only a small number of methadone maintenance inductees immediately cease all illicit drug use in response to the pharmacotherapy alone.36,54 Similar outcomes have been reported with buprenorphine.36-55,68-70 If buprenorphine is used in an OBOT setting for patients with similar severity of disorder as in OTPs, particularly if the office-based setting provides less frequent, less intensive monitoring and counseling than is usually available in OTP settings, the outcome is not likely to be better.

Most patients with persistent and moderate to severe opioid dependence will require at least brief periods of intensified monitoring and counseling to achieve or sustain good clinical outcomes over extended periods of time. These periods may require service levels that exceed the resources routinely available in many OBOT settings. Using available measures of individual differences in severity of opioid use disorder to match patients to an OBOT (vs OTP) treatment setting can reduce the frequency of the potential mismatch.
between problem severity and available clinical resources in new admissions. Because office-based medical practice settings may have access to a larger proportion of employed and less severely impaired opioid-dependent people than OTPs,\textsuperscript{35} selecting for lower severity of disorder and impairment may be relatively easy to do. A basic evaluation that focuses on the following domains will provide the range of information necessary to guide admission decisions and treatment planning:

1. **Substance Use Disorders:** Does the patient satisfy diagnostic criteria for opioid physical dependence? There are numerous rating scales that can be used by staff to guide this determination, and that can be completed in 15 minutes or less (eg, a DSM-IV checklist for opioid and other drug use disorders). Does the patient use cocaine, alcohol, or other drugs? Though nonproblematic use of these substances does not convey a poor prognosis, problematic use of other substances has poor prognostic implications, and current use of these drugs is most often associated with a formal diagnosis of abuse or dependence. Use of opioid agonists alone have very limited efficacy in reducing the use of other substances in most patients, particularly cocaine, alcohol, and sedatives.\textsuperscript{39-98} Use of these substances can remain highly problematic; after patients achieve an opioid “blocking dose” continued desire for acute drug effects and the difficulty achieving the desired effects from additional opioids can make cocaine or alcohol use viable options. Also, agonist maintenance may enhance cocaine- and sedative-related highs.\textsuperscript{99,100} A recently published study of 382 patients started on methadone maintenance showed that upon admission, 63\% abused cocaine and 69\% abused alcohol. Two years later use of these drugs continued, with 37\% using cocaine and 60\% using alcohol.\textsuperscript{101} These patients often required the use of other interventions (eg, routine and enhanced amounts of counseling) that may be limited in many OBOT settings.

2. **Past Treatment:** Collect and evaluate information about prior treatment episodes for opioid or other drug use disorders (eg, prior episodes of agonist maintenance; 3-day inpatient detoxification; short- and long-term residential, standard, or intensive outpatient). Large numbers of prior treatment episodes without much reported benefit may reflect a persistently high level of impairment and overall clinical severity.

3. **Psychiatric Comorbidity:** Assess for the presence of co-occurring psychiatric symptoms and disorders, particularly mood, psychotic (eg, schizophrenia), and anxiety (eg, panic) disorders. Opioid-dependent patients with other psychiatric disorders remain a major clinical challenge for most OTPs and often require services unavailable even in those settings. This challenge is likely to be encountered in many OBOT settings.

4. **Motivation and Psychosocial Functioning:** Higher levels of motivation to stop drug use and to return to a prior good state of psychosocial functioning can indicate an ability to perform rehabilitative tasks with less need for guidance and assistance by treatment staff. In addition, indicators of current level of psychosocial functioning (eg, relationships with family and friends, extent of social/recreational activities and employment) can serve as variables that can be used in patient selection. Persistent unemployment and lack of non-drug use social support are strong indicators of increased severity of disorder, and the eventual need for periods of intensified services.

5. **Physiologic Dependence:** Because buprenorphine appears to produce a maximal opioid agonist effect approximately equivalent to only 60 mg of daily methadone, patients who have an unusually high level of opioid physical dependence may not be optimal candidates for buprenorphine maintenance. However, this is not an absolute rule and has yet to be studied in randomized trials. Patients taking long-acting opioids such as methadone will need to reduce their daily dose (eg, to less than 30 mg methadone) before buprenorphine induction because of the risk of precipitating withdrawal.\textsuperscript{102}

6. **Physical Assessment:** A routine physical examination should be conducted, in which the clinician should look for occult signs of chronic alcohol use, as well as signs and symptoms consistent with drug withdrawal—particularly those associated with use of alcohol or sedatives. The presence of chronic pain also can complicate the assessment and management of substance use disorder. Such patients will require additional staff attention and clinical resources that might exceed those routinely available in OBOT settings. Buprenorphine generally will not be indicated for treatment of opioid dependence in chronic pain patients if they require high doses of full mu agonists for adequate pain control. The amount of opioid analgesic effect needed for pain control in these cases will be attenuated by buprenorphine and opioid withdrawal may be precipitated. A drug screen (eg, urinalysis) is an important element of clinical monitoring in cases with multiple poor prognostic indicators. Comparing the results of the initial drug screen with the patient’s self-report can reveal important discrepancies regarding drug use.
7. Practical Considerations: Do patients have the financial resources (or health insurance coverage) to cover the costs associated with treatment in the OBOT setting? Given the longer-term nature of the treatment required to treat many of these patients, this is an important practical consideration for patients and providers. If the patient is living with drug or alcohol users it can be exceedingly difficult to achieve and sustain periods of substantially reduced drug use. A fair number of such patients will require repeated episodes of more intensive counseling and clinical monitoring to successfully manage this problem. Lastly, offering treatment to well-selected patients with whom the practitioner already enjoys a productive and trusting rapport can represent an opportunity to improve the care of coexisting conditions. Early in the course of treatment, much effort and time is spent gaining a clinical and personal understanding of the patient, building rapport, and establishing a working relationship. Therefore, choosing existing patients with whom this foundation work has already been accomplished has the potential to accelerate the patient’s response to treatment. Provision of basic OBOT to well-selected patients will not require additional clinical or administrative staffing, so long as the clinician has a working knowledge of community resources available to provide supportive care when necessary (M. Fingerhood, oral communication, January 2006).

A number of interventions to be offered within the practice can sometimes moderate the otherwise negative influences of indicators of poor prognosis; but these typically involve recurrent episodes of intensified counseling and patient monitoring, and sufficient staff time to initiate and maintain regular contact with external agencies (eg, criminal justice, housing, and other social services). Many of these activities may exceed the staff resources available in OBOT settings, so selecting patients less likely to require this level of intervention may prove useful in maintaining a positive therapeutic milieu. At the other end of the severity spectrum, patients in OTPs who are doing well may welcome a change to an OBOT setting, and some may even benefit from less exposure to OTP peers who may still be using heroin and other drugs on a regular basis.

Strategic #2: Use an Adaptive Stepped Care Approach

In the case of office-based buprenorphine maintenance, ongoing objective measures of treatment response might include urinalysis results and rates of attendance to scheduled appointments. Based on these clinical response variables, the intensity of clinical monitoring (eg, frequency of office visits) could be adjusted up or down. In addition, the physician can devise a schema specifying exactly how and when referrals to additional services will be made. These interventions could range from more frequent phone contact with office staff, to brief counseling visits with professional staff in the office, to referral to additional services at outpatient addiction treatment programs. Enhanced services such as a weekly evening group counseling session could be brought into the office setting, allowing an additional “step” of increased treatment intensity within the office-based practice. Inpatient detoxification from non-opioid drugs can become part of the plan of care when indicated based on physiologic dependence on alcohol or sedatives. The rules leading to step changes in treatment intensity should be clear and predictable to the patient and office staff, as this will reduce arguments and misunderstandings and will facilitate the ongoing treatment planning process. For example, the system of rules could specify that required counseling services (within or outside the office) will increase to the next level of intensity if the patient has drug-positive urine and/or misses any scheduled appointments for 2 consecutive weeks. This may motivate the patient towards an improved outcome (eg, consistent counseling attendance and cessation of drug use) in order to avoid increased monitoring and treatment intensity, considered aversive to many patients.

As with any medical condition, not all treatments or medications in all settings will be equally effective for all patients. Although most carefully selected patients will do well on buprenorphine in an office-based setting, some patients simply will respond better to methadone in an OTP setting—perhaps owing to the more reinforcing properties of methadone or because of the convenient availability of counseling or psychiatric services in these settings. In such cases, the need to “step up” treatment intensity by transfer to another treatment setting does not imply general failure of the patient or clinician; rather, interactions between the patient and the treatment setting or pharmacotherapy can necessitate a change in the treatment plan. Supporting such transfers, even sometimes mandating them upon a reluctant patient, is part of the task of providing care for this challenging population.

Strategy #3: Integrate Motivational Interventions

Given the strong likelihood of poor patient adherence to scheduled treatments, simply stepping prescribed intensities up or down does not guarantee compliance. Therefore, the goal of integrating the 3 core components of treatment (pharmacotherapy, verbal treatments, and behavioral contingencies) into 1 model is to improve outcomes by making continued pharmacotherapy con-
tingent upon attendance to scheduled (on- or off-site) treatment sessions as well as periods of abstinence from illicit drug use. This necessitates an agreement by the patient during the treatment consent process that the medication ultimately will be tapered and withdrawn if he/she chooses not to adhere to these minimal treatment goals. In addition, linking target behaviors with reinforcers such as longer durations between mandatory office visits, more extended prescriptions, or access to more desirable appointment time slots can be used to motivate forward progress in treatment plan goals.

**Strategy #4: Clarify Expectations Before Induction**

Unfortunately, the patient and the provider may not have compatible views of ultimate treatment goals. Consider, for example, a prospective patient who seeks buprenorphine in order to reduce opioid use yet has little interest in reducing cocaine, alcohol, or other drug use. This particular approach can become very disruptive to the ongoing treatment process when the physician expects an attempt to abstain from all drugs of abuse. Other issues that might represent potential conflicts between patient and provider include intended treatment duration, length of prescriptions, consequences for nonpayment of fees, and the availability and requirements (if any) for participation in case management or intensified counseling and monitoring activities. The expectations and rationale involving these and other potentially important aspects of treatment should be repeatedly presented and discussed over the course of therapy. In fact, providing patients with a written summary of the mutually agreed-upon treatment goals and expectations maintains clarity and emphasizes the importance of these factors.

Finally, optimism should be communicated to the patient. A treatment model that supports the belief that patients cannot be expected to comply with treatment or to cease all illicit drug use for at least recurrent brief periods of time is conveyed to patients as well as to office staff and can yield poor results. Such an underlying nihilistic message, whether or not overtly stated, can result in a self-fulfilling prophecy, further reducing adherence and supporting continued drug use. Therapeutic optimism is reinforced when patients are told that if they do not adequately engage in treatment and demonstrate a reasonable degree of ongoing progress, a referral to more comprehensive services (eg, an OTP utilizing an adaptive treatment model) will be facilitated.

**Conclusion**

Addiction crosses all social and economic borders and has become a highly prevalent health problem in our society. The growing availability of opioids and other drugs (eg, Internet availability of opioids and sedatives) is likely to further escalate the problem. OBOT settings offer a much-needed expansion of the availability of opioid agonist medication in the treatment of opioid dependence. Specific patient characteristics can help predict better response to opioid agonist maintenance when delivered in the context of a standard, low-intensity setting. For patients with partial or poor response to standard service levels, more frequent and intensive counseling and clinical monitoring is helpful. Whereas some OBOT settings may have insufficient resources to provide the amount of counseling and monitoring necessary to improve response to buprenorphine, a number of strategies exist to help manage this situation. This article provides a possible strategy for consideration that has several key components, including: 1) patient-treatment matching to select patients most likely to respond well to OBOT settings; 2) adaptive treatment strategies to organize delivery of in-office services and referral to outside agencies; and 3) brief motivational interventions and behavioral reinforcement to increase patient adherence and progress. Though many of these interventions have been developed in OTP settings, the approaches can be adapted to fit office-based primary care or psychiatric practices.

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