U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT:

RECENT EVIDENCE AND CURRENT PRACTICE

APPENDIX B

OF

PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT: SITE VISIT FINDINGS AND CONCLUSIONS

https://aspe.hhs.gov/basic-report/psychosocial-supports-medication-assisted-treatment-site-visit-findings-and-conclusions

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Psychosocial Supports in Medication-Assisted Treatment: Recent Evidence and Current Practice

Final Report on Current Practices of Psychosocial Supports in MAT

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ACRONYMS

The following acronyms are mentioned in this report.

AA	Alcoholics Anonymous
ACT	Acceptance and Commitment Therapy
AIDS	Acquired Immune Deficiency Syndrome
ASAM	American Society of Addiction Medicine
BAM	Brief Addiction Monitor instrument
BASIS-24	Behavior and Symptom Identification Scale
CBT	Cognitive Behavioral Therapy
CBT-IC	Cognitive Behavioral Therapy of Internal Cues
CFR	Code of Federal Regulations
CHARM	CHildren And Recovery Mothers collaborative
Co-OP	Collaborative Opioid Prescribing model
CRA	Community Reinforcement Approach
DATA 2000	Drug Addiction Treatment of 2000
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
DSM-V	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
EBP	Evidence-Based Practices
ECHO	Extension for Community Healthcare Outcomes project
EHR	Electronic Health Record
FDA	HHS Food and Drug Administration
FQHC	Federally Qualified Health Center
HHS	U.S. Department of Health and Human Services
HIV	Human Immunodeficiency Viruses
HRSA	HHS Health Resources and Services Administration
MARC	Maternal Addiction and Recovery Center
MET	Motivational Enhancement Therapy
N-DATSS	National Drug Abuse Treatment System Survey
NA	Narcotics Anonymous
NIDA	HHS National Institute on Drug Abuse
NSSATS	National Survey of Substance Abuse Treatment Services
OBOT	Office-Based Opioid Treatment
OBOT-B	Office-Based Opioid Treatment with Buprenorphine
OTP	Opioid Treatment Program
OUD	Opioid Use Disorder

PCSS-MAT	Providers' Clinical Support System for Medication-Assisted Treatment
PS	Psychosocial Service
SAMHSA	HHS Substance Abuse and Mental Health Services Administration
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SUD	Substance Use Disorder
TES	Therapeutic Education System
WHO	World Health Organization

EXECUTIVE SUMMARY

This report was produced under contract to the Office for the Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services (HHS). The purpose of this report is to summarize current research findings and describe current practices of psychosocial supports in medication-assisted treatment (MAT) for opioid use disorder (OUD). Psychosocial supports include formal or informal counseling by the prescribing physician or other professionals, individual and group therapies, structured or evidence-based psychotherapies, participation in structured peer counseling, and efforts to identify and address the social determinants of health.

Methodology

This report reflects the results of a literature review and key informant interviews. The literature review identified peer-reviewed articles and grey literature on psychosocial support services in MAT. Results were limited to items in English published from 2007 to 2017. In addition, nine informants with expertise related to psychosocial supports in MAT were identified and interviewed. Stakeholders included researchers, health care providers, administrators of MAT programs, and policymakers.

Findings

Effectiveness of Psychosocial Supports in MAT. The available literature on the impact of psychosocial supports on outcomes for patients receiving MAT was reviewed. These studies have serious limitations, so the results of these analyses should be interpreted with caution. Findings related to the incremental benefit of psychosocial supports were mixed; however, the most comprehensive and current reviews were supportive of the value of psychosocial supports in addition to pharmacological treatments for OUD. The current research is inadequate to provide clear guidance on the types or levels of psychosocial services that should be provided, or on how to adapt psychosocial supports across clinical settings or patient groups.

Current Practices. The range of providers of psychosocial supports includes social workers, nurses, pharmacists, counselors, peer recovery specialists, outreach workers, physicians, and advanced practice professionals. They are currently providing psychosocial supports of varying models and intensities to patients receiving MAT for OUD. In addition, the psychosocial services offered differ across treatment settings that include smaller primary care practices, Federally Qualified Health Centers, Opioid Treatment Programs, and other specialty substance use disorder (SUD) care. A national survey of buprenorphine prescribers found that a much higher percentage of those working in specialty SUD treatment settings report providing counseling on site compared to non-specialty settings (62.9 percent vs. 32.1 percent) as well as a lower percentage of patients receiving no counseling (6.7 percent vs. 13.6 percent).

Possible treatment methods include generalized addiction counseling, Cognitive Behavioral Therapy, Motivational Enhancement Therapy, Community Reinforcement Approach, contingency

management, medication management, peer services, self-help, family therapy, and computer- or phone-based interventions. Psychosocial support services may be tailored to meet the needs of certain patient populations--including youth, pregnant and postpartum women, persons who have experienced trauma, and individuals with co-occurring medical or psychiatric disorders--although current research provides little information about how to align treatment models and populations.

Barriers. Various challenges may limit access to or hinder the delivery of psychosocial support services. The ***current delivery system*** separates medical, mental health, and substance use treatment into different systems, even though successful MAT requires services in all three domains. While there has been some integration of MAT into medical settings, challenges remain in terms of improving relationships, coordination, and information sharing between medical and behavioral health providers. Also, community outreach and expansion of treatment capacity is needed to engage people in treatment, as a substantial gap remains between the number of individuals who could benefit from MAT for OUD, and the number who actually receive it.

Issues related to the ***workforce*** frequently hinder the delivery and use of psychosocial support services in MAT. Current providers may lack the education, training, and ongoing clinical supervision needed to successfully deliver psychosocial supports in MAT. Many areas face workforce shortages and challenges with recruitment and retention.

Stigma contributes to misperceptions of MAT and SUD. Medical and behavioral health providers may hold stigmatizing beliefs that impact the quality of care they deliver to patients with OUD. Self-help groups grounded in "drug-free" ideologies may not be welcoming or accepting of patients receiving MAT. Finally, patients themselves may hold stigmatizing beliefs or see them reflected from friends and family, which may limit their ability to engage and remain in treatment.

Logistical barriers also pose obstacles for psychosocial supports. For patients, practical challenges related to housing, employment, childcare, and transportation may make it difficult to seek or receive treatment. Providers, on the other hand, may find it difficult to deliver psychosocial support services as they lack sufficient time to see patients and perform bureaucratic tasks.

Overall, the behavioral health system is severely underfunded, and programs often struggle with challenges related to ***payment and reimbursement***. Behavioral health services are frequently reimbursed at insufficient rates, and state Medicaid billing restrictions may further limit programs' ability to deliver integrated care. The overall lack of resources leads to inadequate compensation for providers, complicating the aforementioned challenges related to staff recruitment and retention.

Ideal Models of Psychosocial Supports in MAT. Through the literature review and stakeholder interviews, common themes regarding key elements of an ideal model of psychosocial support services in MAT were identified. Several key informants emphasized the need to treat ***addiction as a chronic disease*** that must be managed over time and with the expectation of relapses. This approach, recommended by the HHS National Institute on Drug Abuse and the American Society of Addiction Medicine, needs to be embedded into MAT and related psychosocial support services.

In addition, people with OUD often present with differing levels of severity and complexity. Therefore, an ideal model of care would be ***patient-centered and flexible***. For example, depending on patient needs, specific treatment methods may be more effective. Similarly, shared decision making involving patients and providers should be the basis for setting their treatment plan. That

plan should include the selection of MAT medications and determining the types of psychosocial supports that are appropriate for and preferred by the patient.

The delivery of psychosocial services should be tailored to the patient's stage of treatment, using a ***stepped-care or phased approach***. Psychosocial supports may play a different role and aim to achieve specific goals in each phase of care, from initial treatment to longer-term recovery.

An ideal model of care would embrace a "whole-person" approach that addresses the need for ***recovery supports***. Wrap-around and case management services are critical to help stabilize an individual's life and promote recovery. Specific ***systemic models of MAT delivery and support*** include Hub-and-Spoke, Collaborative Opioid Prescribing Model, Opioid Health Home, Office-Based Opioid Treatment with Buprenorphine Massachusetts Collaborative Care Model. These models provide educational and consulting support to MAT providers and facilitate triaging patients with more complex needs to alternate settings that can better assist them.

Conclusion

The findings of the literature review and key informant interviews demonstrate the diversity of psychosocial supports in MAT. Key elements and promising models of psychosocial supports were identified, but there are still significant gaps in the evidence base. Additional research is needed that truly compares the effect of psychosocial support services depending on the stage of treatment, the type of accompanying medication, and the clinical setting, while also considering a range of recovery outcomes. More consistent and comprehensive data are needed to better describe the delivery of psychosocial supports in MAT for OUD across the full range of settings that provide this type of care. A systems approach to evaluating psychosocial interventions may be beneficial in determining which core components of these services are essential.

1. INTRODUCTION

Medication-assisted treatment (MAT) is defined as the "use of medications, in combination with counseling and behavioral therapies, to provide a "whole-patient" approach to the treatment of substance use disorders."[1] The purpose of this report is to identify how providers currently deliver the psychosocial components of MAT, as well as the factors that facilitate or hinder the delivery of these services in clinical practice when treating patients with opioid use disorder (OUD). This report reviews findings from the peer-reviewed literature, presents unpublished data from two large national surveys of MAT providers, and summarizes data collected during interviews with key stakeholders, including researchers, treatment providers, administrators, and policymakers.

Context

In recent years, the increasing misuse of opioids has become a national crisis and a threat to public health. In 2016 alone, more than 42,000 people died from an opioid-involved drug overdose, or approximately 116 people daily in the United States. The rate of opioid-involved overdose deaths has increased five-fold since 1999.[2] In 2014, opioid poisoning was involved in 20.4 percent of hospitalizations and 22.1 percent of emergency department visits for unintentional drug poisoning.[3]

Prescription opioids, heroin, and other synthetic opioids contribute to the opioid epidemic. The 2016 National Survey of Drug Use and Health found that approximately 11.8 million people had misused opioids in the previous year.[4] The survey also found that 2.1 million people had an OUD,[4] defined as a "problematic pattern of opioid use leading to clinically significant impairment or distress."[5] OUD is characterized by physical effects including cravings, tolerance, and withdrawal, as well as lifestyle impacts such as interference with obligations or social functioning.

Over-prescribing of prescription opioids has led to their widespread availability, escalating rates of misuse, and increasing prevalence of OUD. The opioid prescribing rate has declined since 2012, but remained as high as 66.5 prescriptions per 100 persons in 2016.[3] Hydrocodone products, which are opioids, were the most commonly cited subtype of misused pain relievers in the National Survey of Drug Use and Health. Nearly 7 million people (2.6 percent of the population) reported misusing these prescription opioids, and 1.8 million people had a prescription pain reliever use disorder.[4]

Past misuse or abuse of prescription opioids is often associated with initiating heroin use, indicating a common pathway or progression between these drugs.[6] In 2016, nearly 1 million people had used heroin in the past year, and 67.6 percent of those had also misused pain relievers. Additionally, 626,000 met the DSM-IV criteria for a heroin use disorder.[4] Heroin overdose deaths quadrupled between 2010 and 2015, in part because of greater availability of heroin, and illicitly manufactured fentanyl, which may be mixed into the heroin supply.[7]

Synthetic opioids, such as fentanyl, have received more attention recently due to their deadly impact. The age-adjusted rate of overdose deaths involving synthetic opioids other than methadone doubled between 2015 and 2016.[8] Almost 20,000 people died in 2016 due to overdoses from synthetic opioids other than methadone, compared to 2,800 in 2011.[9] One study found that fentanyl was

involved in 56 percent of opioid overdose deaths in late 2016; when present, it was the cause of death in 97 percent of cases. Fentanyl analogs, such as acetyl fentanyl, furanyl fentanyl, and carfentanil, are increasingly present in the illicit opioid drug supply. Estimates of deaths in which fentanyl analogs are involved are likely underreported because specialized toxicology testing is required to identify them.[10] Nonetheless, it is clear that synthetic opioids have dramatically escalated the number of opioid-related overdose deaths in the United States.

Medication-Assisted Treatment

Research has demonstrated that MAT is effective in treating OUD by decreasing opioid use and opioid-related overdose deaths.[11,12] The U.S. Department of Health and Human Services (HHS) Food and Drug Administration (FDA) has approved three medications to treat OUD: methadone, buprenorphine, and naltrexone.

Methadone, an opioid agonist, fully binds to and activates opioid receptors in the brain to reduce withdrawal symptoms. Methadone may only be dispensed by Opioid Treatment Programs (OTPs) certified by the HHS Substance Abuse and Mental Health Services Administration (SAMHSA). SAMHSA's 2016 National Survey of Substance Abuse Treatment Services (NSSATS) found that the 1,308 OTPs represent 9 percent of all United States specialty substance use disorder (SUD) treatment facilities.[13] These facilities were treating 345,443 individuals with OUD as of March 31, 2016.

Buprenorphine, as a partial agonist, does not completely bind to opioid receptors and has a limited effect, sufficient to stop withdrawal but not enough to cause euphoria. Therefore, it carries a lower potential for misuse and diversion than methadone.[11] FDA-approved combination products of **buprenorphine and naloxone** are used more commonly than mono-buprenorphine products. The inclusion of naloxone protects against intravenous misuse of buprenorphine because, as an antagonist, naloxone covers the opioid receptors and blocks the effects of other opioids. Taken as intended, the naloxone in the combination product is not well absorbed and has no clinical effect. However, when injected, the naloxone blocks the effect of the buprenorphine and induces withdrawal.[14] Because of its lower abuse potential, buprenorphine treatment is not restricted to OTPs. In order to prescribe buprenorphine, physicians are required to complete 8 hours of training (or hold an addiction certification)[15] and obtain a waiver from SAMHSA per the Drug Addiction Treatment Act of 2000 (DATA 2000).[16] In 2016, the Comprehensive Addiction and Recovery Act expanded eligibility requirements for buprenorphine prescribing to allow nurse practitioners and physician assistants to apply for waivers to treat up to 30 patients after undergoing 24 hours of training.[17] As of February 2018, 37,943 civilian physicians (with 25,594 waivered to treat up to 30 patients, 8,576 waivered for 100 patients, and 3,773 waivered for 275 patients), 4,221 nurse practitioners, and 1,108 physician assistants had received waivers to prescribe buprenorphine.[18]

Finally, **naltrexone** is an opioid antagonist that blocks the effects of other opioids and induces withdrawal. A licensed provider does not require an additional waiver or certification to prescribe this medication, as there is no risk for misuse. Naltrexone is most frequently used for relapse-prevention or abstinence-based treatment.[11] It is available in tablets that are taken daily and in an extended-release depot formulation that lasts for 30 days. Data on the availability of naltrexone is sparse. About 21 percent of specialty SUD treatment facilities offer extended-release naltrexone, but

in 2016, just 10,128 of the 1.1 million patients treated in specialty facilities were receiving extended-release naltrexone.[13] Data from a large national survey of buprenorphine prescribers indicates that the capacity to prescribe naltrexone is widespread, with 63.8 percent reporting they also prescribe oral naltrexone and 49.3 percent prescribing extended-release depot naltrexone; it was not reported how many patients were receiving naltrexone from these prescribers.

Role of Psychosocial Supports in MAT

Discussions of MAT often focus on pharmacotherapy, yet the psychosocial components of this treatment are embedded in its definition. United States regulations and legislation require psychosocial services to be part of MAT, particularly for methadone and buprenorphine treatment. The Federal Opioid Treatment Standards for OTPs set forth in the Code of Federal Regulations (specifically 42 CFR Part 8) require the provision of …

> "adequate substance abuse counseling to each patient as clinically necessary. This counseling shall be provided by a program counselor, qualified by education, training, or experience to assess the psychological and sociological background of patients, to contribute to the appropriate treatment plan and to monitor patient progress."[19]

The *Federal Guidelines for Opioid Treatment Programs* further describe the need for OTPs to include other support services in addition to counseling as part of a patient's treatment plan. Examples cited include peer recovery coaches, 12-step programs, and faith-based and community groups. These guidelines also describe the importance of family counseling, especially for young adults.[20]

For buprenorphine, DATA 2000 requires that buprenorphine providers have the "capacity to provide directly, by referral, or in such other manner as determined by the Secretary … appropriate counseling and other appropriate ancillary services." Similarly, the legislation requires that training for physicians on buprenorphine must address "counseling and recovery support services."[21]

Further, clinical practice guidelines for MAT frequently recommend psychosocial interventions as an important part of treatment for OUD.[22] The World Health Organization's (WHO's) *Guidelines for the Psychosocially Assisted Pharmacological Treatment of Opioid Dependence* emphasize the importance of psychosocial services as a complement to pharmacotherapy. It describes a minimum standard of psychosocial support as including assessment of psychosocial needs, counseling, connections to family supports, and referrals to community services.[23]

Despite policies and guidance supporting the value of psychosocial support, some question whether such services are necessary and if pharmacotherapy alone is sufficient. The American Society of Addiction Medicine (ASAM) *National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use* acknowledges that evidence on the incremental benefit of psychosocial treatment on patient outcomes is mixed, but does recommend these services for patients receiving opioid agonist and antagonist treatments.[24]

The rationale for requiring psychosocial services in MAT is rooted in their ability to help patients manage the many challenges they often face either as a result of the OUD or from co-occurring problems. The WHO guidelines contend, "providing medications without offering any psychosocial

assistance fails to recognize the complex nature of opioid dependence."[23] As described below, psychosocial interventions serve three main roles in MAT: engagement of patients in treatment, modification of behaviors, and treatment of co-occurring mental disorders.[24]

Engagement. Given the efficacy of pharmacotherapy in treating OUDs, successfully engaging patients in treatment and improving medication adherence is critical. Some psychosocial interventions seek to encourage adherence to the treatment plan. For example, contingency management interventions apply principles of operant conditioning, and reward patients for meeting requirements or goals. For opioid use and other SUDs, contingency management approaches have been successful at enhancing patient motivation to engage and remain in treatment.[25]

Behavior Change. Historically, behavioral modification achieved through psychosocial intervention has been a core component of SUD treatment. Behavioral therapies can help patients recognize the impact of their behaviors on their substance use and recovery, while increasing knowledge and motivation to change.[26] The HHS National Institute on Drug Abuse's (NIDA's) *Principles of Drug Addiction Treatment* describes how behavioral approaches can help change attitudes and behaviors related to drug abuse, and develop skills for handling stressful circumstances, including cravings and triggers.[27] The American Psychological Association notes that cognitive behavioral therapy (CBT) techniques help patients with OUD identify and manage negative or dysfunctional thinking, change unhelpful behaviors, and promote positive interactions with others.[28]

Addressing Co-Occurring Mental Disorders. SUDs and mental disorders are often intrinsically linked.[29] Research has found a bi-directional relationship between non-medical opioid use and psychiatric disorders, specifically mood disorders, major depressive disorder, bipolar I disorder, anxiety disorders, panic and generalized anxiety disorders.[30] Pre-existing psychiatric disorders increase a person's risk for non-medical opioid use, and pre-existing non-medical opioid use is associated with increased likelihood for onset of a psychiatric disorder. In one study, 47 percent of participants in methadone maintenance treatment had a psychiatric comorbidity.[31] People with OUD are also more likely to die by suicide: OUD and injection drug use are associated with a 13-fold increased risk of suicide relative to the general population.[32] Providers of psychosocial services can recognize these risks and tailor interventions to support their patient's needs.

Left untreated, co-occurring mental disorders may impede recovery for patients in MAT and lead to challenges with patient engagement, building relationships between patients and providers, and adherence to treatment.[29] For example, an analysis of claims data found that patients diagnosed with major depressive disorder/bipolar disorder were significantly less likely to adhere to buprenorphine treatment than those without these disorders.[33] Patients who do not remain in treatment face a greatly increased risk of relapse.[29] Saunders et al. found a reduction in positive drug screens when patients with OUD and co-occurring post-traumatic stress disorder received MAT combined with CBT.[34] By incorporating psychosocial interventions as part of MAT, providers can address some of the other patient needs that are critical to achieve and sustain recovery.

Methodology

In their systematic review of the role of psychosocial supports in MAT, Dugosh et al. point to "a dearth of empirical research on the optimal psychosocial interventions to use with these

medications." They observe further that "it is critical to gain a better understanding of the most effective ways to deliver psychosocial treatments in conjunction with these medications to improve the health and well-being of individuals suffering from opioid addiction."[35] In addition to the need for further research on optimizing psychosocial interventions, there is a critical need for descriptive data on how psychosocial supports are delivered to patients receiving MAT in clinical practice. The current study seeks to improve our understanding by reviewing the published and grey literature, and conducting key informant interviews with knowledgeable experts.

Literature Scan. This report reflects the findings of a review of published and grey literature. Professional librarians conducted a comprehensive search of the literature on psychosocial support services in MAT for OUD. Searches were conducted in PubMed, PubMed Central, PsycINFO, ASSIA, Sociological Abstracts, Social Services Abstracts, PILOTS, CINAHL, and WorldCat. Results were limited to articles in the English language published from 2007 to 2017. The titles and abstracts of references found through the searches were reviewed, and articles that were highly relevant to the scope of this report were identified. We conducted targeted searches for additional articles found in the reference lists of key studies, and for topically relevant background information as needed.

In addition to reviewing the peer-reviewed literature, we drew upon unpublished data available from two large NIDA-funded studies of OUD treatment. The first study, led by Dr. Hannah Knudsen, was a national survey of current buprenorphine prescribers in which 1,174 physicians described the treatment services delivered to their patients.[36] Prescribers described their attitudes toward psychosocial supports, and the frequency and duration of office visits in the delivery of counseling and other clinical practices to their patients. The second study, led by Dr. Peter Friedmann, was a national survey of administrators of federally licensed OTPs, conducted as part of the National Drug Abuse Treatment System Survey (N-DATSS).[37] OTP administrators were asked to identify the three most common counseling interventions used at their facility.

Key Informant Interviews. In addition, nine key informants with expertise in and knowledge of MAT for OUD and associated psychosocial support services were identified and interviewed. The informants were a diverse group of professionals in the field, selected to offer differing and balanced perspectives. These individuals represented the following categories of stakeholders: researchers, health care providers, administrators of MAT programs, and policymakers.

The semi-structured, 60-minute to 90-minute interviews were conducted via telephone or a videoconferencing platform. All informants provided informed consent before the interview. After receiving permission from the informants, the interviews were audio-recorded, and extensive notes were taken during interviews. Key informants were asked questions from a topical interview guide, with additional or supplemental questions asked as needed. Topics covered included:

1. Range of psychosocial supports providers are using in practice.
2. Important components of psychosocial services to support positive patient outcomes.
3. Factors that facilitate or impede implementation of psychosocial support services.
4. Ideal models of psychosocial supports in MAT to promote recovery.

For the purposes of this study, we defined psychosocial supports to include:

- Formal or informal counseling by the prescribing physician or others.
- Individual or group counseling or therapies.
- Formal structured psychotherapies.
- Participation in structured peer counseling.
- Identification of and attempts to address social determinants of health.

2. EFFECTIVENESS OF PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT

While the evidence base for the efficacy of pharmacotherapy for the treatment of OUD is broad and consistent, the findings in the literature related to the added benefit of psychosocial supports are mixed. Some studies show a significant effect of psychosocial interventions in combination with MAT; however, other studies and systematic reviews have reached less supportive conclusions. The most recent comprehensive systematic review of findings on the role of psychosocial interventions in MAT by Dugosh et al. (2016) concluded: "The results generally support the efficacy of providing psychosocial interventions in combination with medications to treat opioid addictions, although the incremental utility varied across studies, outcomes, medications, and interventions."[35] Key informant interviews conducted for the current study also suggested that psychosocial supports may contribute to important outcomes such as promoting treatment engagement and ongoing retention, and increasing the rate of recovery-supportive behaviors.

Earlier systematic reviews include one by Drummond and Perryman conducted in 2007, which reviewed the evidence base for psychosocial interventions as an adjunct to pharmacotherapy for OUD. They found some evidence to support the use of CBT and contingency management in methadone maintenance treatment. However, they noted that it was not clear what the "active ingredients" were or what "minimum dose" of these interventions was needed.[38]

In 2011, Amato et al. published two seemingly contradictory Cochrane reviews, although the differences in results are clearly rooted in the foci of the reviews. The first examined treatment of persons addicted to heroin and receiving either buprenorphine or methadone. That review concluded: "Psychosocial treatments offered in addition to pharmacological detoxification treatments are effective in terms of completion of treatment, use of opiates, participants abstinent at follow-up, and clinical attendance."[39] The second review studied the incremental effects of 13 psychosocial interventions beyond those provided in methadone maintenance programs that routinely included general counseling. The specific psychosocial interventions fell into four broad categories: behavioral interventions, psychoanalytic-oriented interventions, counseling interventions, and other. Quoting from the authors' conclusions:

> "For the considered outcomes, it seems that adding any psychosocial support to standard maintenance treatments do not add additional benefits … It should be noted that the control intervention used in the studies included in the review on maintenance treatments, is a program that routinely offers counselling sessions in addition to methadone; thus the review, actually, did not evaluate the question of whether any ancillary psychosocial intervention is needed when methadone maintenance is provided, but the narrower question of whether a specific more structured intervention provides any additional benefit to a standard psychosocial support."[40]

The 2016 systematic review by Dugosh et al. included 27 more recent studies that were not covered by the reviews of Drummond and Perryman (2007) and Amato et al. (2011a and 2011b). The studies represented a range of psychosocial interventions, such as behavioral drug and HIV risk counseling, contingency management, general supportive counseling, CBT, web-based behavioral interventions, motivational interviewing, acceptance and commitment therapy (ACT), community reinforcement

and family therapy, intensive role induction, telephonic patient support, and behavioral naltrexone therapy. Of these interventions, contingency management and CBT were the most widely studied. As noted above, the Dugosh analysis concluded that the findings generally supported the efficacy of providing psychosocial interventions in conjunction with medications to treat OUD.

Variation in Control Interventions. There are several limitations to the findings across the individual studies and systematic reviews. One such limitation is that the control intervention used in some studies may actually incorporate elements of psychosocial support. For example, the studies of methadone maintenance programs included in the review by Amato et al. (2011b) were all required to offer general counseling sessions because of federal licensing requirements for OTPs.

Similarly, Weiss et al. reported no difference in outcomes for patients undergoing standardized buprenorphine-naloxone treatment that included manualized medical management plus opioid drug counseling, compared to those that received medical management alone.[41] However, the "standard" manualized medical management provided in the Weiss et al. study appears to have included substantially more support than is available in routine clinical practice. Drawing on the *Manual for Primary Care Management of Opioid Dependence with Buprenorphine*[42] followed in the study, a trained physician conducted an initial 45-minute to 60-minute intake followed by weekly 15-minute to 20-minute patient visits with the physician or nurse.[43] The manualized medical management included the physician reviewing the patient's medical and behavioral health issues, assessing substance use, recommending abstinence, working to enhance motivation to engage in treatment and work toward recovery, assessing the psychosocial issues broadly, referring patients to self-help groups, and addressing response to the medications and cravings. The manual appears to include an expectation that social workers and others would be available to address psychosocial issues that go beyond the competency of the physician-nurse team. Of note, the treatment protocol for the Weiss et al. study included only 4 weeks on buprenorphine, followed by a 2-week tapering period in which the buprenorphine dose was reduced.[43] If patients had a relapse after this first phase (and nearly all patients did),[41] they received the medication for 12 weeks, followed by a 4-week dose-tapering period. About half of the patients achieved a positive outcome during this second phase, but again, nearly all relapsed after being tapered off the medication. These findings have influenced the field, in that longer durations of treatment are now commonly recommended by key leaders, such as NIDA Director Dr. Nora D. Volkow, who has emphasized the importance of longer-term treatment.

As noted in some of the key informant interviews, the level of medical management provided routinely in conjunction with prescription of buprenorphine-naloxone may also be less-intensive or of lower quality than that offered in the Weiss et al. study. In a national survey of buprenorphine prescribers, about half typically saw patients either weekly or every other week during the first 60 days of treatment. Notably, about one-third of the sample reported seeing patients only once per month during this initial phase, with an average visit length of 22 minutes.

Limited Array of Outcomes Examined. In addition, the outcomes assessed in much of the literature might not fully capture the impacts of psychosocial interventions.[44] They may fail to capture outcomes on relevant psychosocial issues such as mental health symptoms, treatment adherence, cravings, and quality of life. As described by key informants, other important recovery-related measures include housing, family relationships, employment, self-esteem, childcare, justice involvement, and financial status. These functional outcomes are more directly impacted by recovery support systems, which research to date has not fully included in assessing treatment outcomes.

Skill, Training, and Clinical Supervision of Psychosocial Providers. Another limiting factor in studies evaluating the effectiveness of psychosocial interventions is the quality of the intervention and the skill of the providers. In research and in clinical practice, the success of a psychosocial intervention may hinge on the provider's therapeutic knowledge and training, as well as their ability to convey empathy, warmth, and unconditional positive regard.[38] Day and Mitcheson argue that therapists should not be treated as a fixed form of treatment, but rather should be measured and controlled for when conducting analyses.[44] Informants interviewed for this study suggested the critical importance of regular and high-quality clinical supervision for ensuring that psychosocial supports are provided in a clinically effective manner.

Short-Term Evidence for a Chronic Disorder. Several key informants noted that it is important to recognize that addiction is a complex and chronic disease. NIDA defines addiction as "a chronic, relapsing brain disease" and notes that the drug-induced brain changes "can be long lasting and can lead to many harmful, often self-destructive, behaviors."[45] NIDA Director Dr. Volkow, in January 2016 testimony to the Senate Judiciary Committee, summarized the research evidence as indicating that "Methadone and buprenorphine are equally effective at reducing opioid use" and that "the evidence supports long-term maintenance with these medicines in the context of behavioral treatment and recovery support, not short-term detoxification programs aimed at abstinence."[46]

However, nearly all research studies conducted to date provide evidence only on relatively short-term outcomes--typically 3-6 months or less, far briefer treatment than is now recommended. As Dr. Volkow notes, many people with OUD experience cycles of relapse and recovery. Treatment must recognize the likelihood of relapse, incorporate recovery supports, and assist the person with OUD to develop alternative behaviors and social interaction patterns. Medications are very effective, but alone are not a cure for the chronic, relapsing disorder.

In sum, the evidence in the literature for the use of psychosocial services is ambiguous. Nonetheless, most of the key informants interviewed felt strongly about the value of these supports in MAT. Many of the informants noted that psychosocial supports are very important to engagement and retention. High dropout rates in the initial month of treatment are common, pointing to the importance of psychosocial supports in promoting treatment motivation and engagement. If patients stay in treatment, the medications can begin to work and providers can teach patients skills to deal with this chronic condition throughout their lifetime.

Key informants described how psychosocial interventions can enhance motivation, improve self-efficacy, help to develop relapse-prevention skills, and provide coping mechanisms. For instance, one individual noted that some family members and life partners encourage patients to stop taking their medications quickly, thus dramatically increasing the risk of relapse. This highlights the need to educate partners and family members about the medications, their side effects, and the course of recovery through family therapy or intensive medication management. Another informant explained how psychosocial interventions that help patients develop social support and a positive peer group can promote treatment adherence and recovery.

Therefore, while additional, more comprehensive, and longer-term research is needed, the results of these analyses should be cautiously interpreted as supporting the value of psychosocial supports in MAT.

3. PSYCHOSOCIAL SUPPORTS IN CURRENT PRACTICE

The literature review and key informant interviews indicated wide variation in the types of therapies and psychosocial support services currently used in clinical practice. Further, when comparing research and clinical practice, there are differences in the prevalence and utility of certain interventions, with some interventions that have the strongest evidence not widely used in the field. Notably, the range of settings for MAT delivery has expanded dramatically. For decades, methadone was the only available form of MAT, and was delivered in a limited number of OTPs. With the introduction of newer medications such as buprenorphine and naltrexone, MAT is delivered in non-OTP specialty SUD clinics, individual and group physician offices, federally qualified health centers (FQHCs), and hospitals. This heterogeneity of settings is associated with variation in providers of psychosocial supports. Specialty SUD treatment settings, including OTPs, have long delivered psychosocial supports via counselors and social workers with varying levels of training. Expansion of MAT into predominantly medical settings, which may lack experienced SUD counselors and social workers, has shifted the feasibility of psychosocial supports models, given different levels of addiction expertise and the need for briefer interventions to fit the time constraints of medical appointments.

As described in Table 3-1, the psychosocial services offered in practice may vary across several key elements.

Providers

The range of providers involved in psychosocial supports includes social workers, nurses, pharmacists, counselors, peer recovery supports, outreach workers, physicians, and advanced practice professionals. While some providers have specialty training in addiction medicine or the provision of counseling, many do not. For example, in a national sample of buprenorphine-prescribing physicians, 21.6 percent were addiction specialists (i.e., addiction medicine or addiction psychiatry), 27.2 percent were general psychiatrists, and 51.3 percent were from other specialties (largely primary care). The need for additional education, training, and supervision of providers treating OUD is discussed in further detail later in this report.

The case of buprenorphine illustrates some of the complexities regarding who provides psychosocial supports. A national survey of buprenorphine-prescribing physicians asked about the delivery of counseling to their patients, and these data were analyzed for this environmental scan. Prescribers were asked to report the percentage of patients who received counseling from: (1) the prescribing physician; (2) other professionals within the practice where the physician worked; and (3) external providers. On average, prescribers reported that about half of their patients received counseling from the prescriber (mean = 53.5 percent of patients). More than one-third of prescribers indicated that they personally delivered counseling to all patients, while about one-quarter reported that they did not personally deliver counseling to any of their patients. The percentage of patients receiving counseling from other professionals within the prescriber's practice was lower, averaging about 38 percent of patients. Addiction specialists and psychiatrists reported greater percentages of their patients receiving counseling from themselves as well as from other professionals in their practice,

vs. prescribers from other medical specialties. The average prescriber reported that about 39 percent of their patients received counseling from external providers (i.e., by referral). The complete absence of counseling was somewhat rare; the average prescriber indicated that 12 percent of their patients received no counseling.

TABLE 3-1. Key Dimensions Across Which Psychosocial Service (PS) Approaches Vary	
Type of Pharmacotherapy Being Provided	PS approaches may vary depending on whether the medication provided is methadone, buprenorphine, or naltrexone, and whether the formulation is short-term or long-acting.
Prescriber Location	PS approaches may vary depending on whether the prescriber is in an office-based setting, a larger health clinic, a methadone clinic, or another specialized SUD treatment facility (inpatient or outpatient).
PS Provider Location	PS providers may be in the same facility as prescriber, in a separate location, or be offered via any of several modes of telehealth.
Type of PS Provider	Licensed clinicians (e.g., social worker, psychologist, counselor, or nurse); certified peer specialist/recovery coach; or peer groups such as AA and NA.
Type of PS Provided	Structured per a specific evidence-based model (e.g., case management, CBT, community reinforcement); general counseling; experienced-based peer supports; family therapy; individual or group sessions, or both.
Adaptation to Phase of Treatment Process	Using differing methods appropriate to initial contact, induction/initial treatment, early engagement with treatment process, relapse response, longer-term retention in treatment and recovery, or long-term recovery.
Adaptation to Patient Groups	Patients with chronic pain; pregnant and postpartum women; injection drug users; gender-specific treatment; trauma-specific treatment; co-occurring mental disorders; age-specific groupings.
Relationship between Prescriber and PS Provider(s)	PS provider may be an employee, may have a contract or memorandum of agreement with the prescriber, or may be in a documented referral relationship; or the prescriber may simply offer a list of available PS providers in the area.
Use of Standardized Measurement	Standardized screening instruments for addiction, risk, detoxification, craving, and ongoing progress monitoring; regular use of urine testing; use of registries to record and monitor treatment.
Participation in Treatment Planning	The prescriber and PS providers may jointly develop the treatment plan in collaboration with the patient (shared decision making); joint plan development without the patient; sharing of the plan after development; no sharing of the plan.
Sharing of Clinical Information and Progress Monitoring	Shared EHRs with full access to all data; shared EHR with compartmentalized data; separate EHRs with data sharing Continuity of Care documents; periodic referral progress notes; or limited or no sharing of clinical and progress data.
Reimbursement for PS	Reimbursed through a bundled payment or a capitation rate; fee-for-service; PS providers may be grant funded; PS may be provided on a voluntary basis without reimbursement.

Treatment Methods

Several evidence-based practices (EBPs) and structured models of therapy have been widely studied in regard to SUDs generally, and their effectiveness is well known. However, there is less extensive research on their use specifically in the treatment of OUDs as part of MAT.

Stakeholders suggested there is great value in providers knowing and understanding the major EBPs. Several key informants reported using techniques based on models such as CBT, motivational interviewing, or ACT, but they did not report implementing these therapies in a strictly manualized way. Instead, elements of evidence-based approaches often are integrated into the counseling framework, without adherence to a specific treatment manual. Two informants noted that these structured interventions are often too rigid, and that maintaining fidelity to the model would not allow for individualized treatment.

Generalized Addiction Counseling

Individual Counseling. One-on-one counseling is a prevalent type of psychosocial intervention throughout the literature. For example, in one study, manual-based opioid dependence counseling included psychoeducation on addiction and recovery, lifestyle change, and relapse-prevention in 45-minute to 60-minute sessions.[41] Miotto et al. evaluated buprenorphine treatment in combination with three psychosocial interventions, one of which was individual counseling by a certified drug and alcohol counselor, delivered concurrently during medication dispensation at OTPs. These counseling sessions occurred once per week during the first 6 weeks, and moved to once monthly thereafter.[47]

Findings related to the value of counseling vary. For instance, individuals who attended chemical dependency counseling were more likely to complete 6 months of buprenorphine-naloxone treatment in a MAT program based in an ambulatory primary care setting.[48] However, two other studies of patients receiving buprenorphine-naloxone found no additional benefit of individual counseling when combined with medication management.[41,49] Individual counseling is often studied in the context of specific techniques and will be further addressed later in this report in relation to evidence-based models such as CBT.

In practice, non-specific individual addiction counseling is a common and standard treatment option, according to the key informants. Most informants reported that individual counseling tends to weave together elements of CBT, motivational interviewing, and relapse-prevention, without adherence to one single counseling approach. One informant described the patient's ability to focus solely on himself and his own recovery as the main benefit to individual therapy.

Group Counseling. Within the peer-reviewed literature, counseling delivered via group sessions has been studied as both treatment and control condition. A study by Petry and Carroll used group counseling as part of standard care that included relapse-prevention, HIV education, life skills training, and 12-step oriented therapy.[50] Other research has assessed the impact of a group counseling program using the evidence-based Matrix Model of CBT.[47] The Matrix Model is a structured behavioral treatment that consists of group sessions that include relapse-prevention, family therapy, education, self-help, and more.[26]

The key informant interviews suggested that group therapy is one of the most common psychosocial modalities used in clinical practice for delivering psychosocial supports during OUD treatment. One informant described groups as a place of healing and support for those who would not otherwise have that in their lives. Benefits of a group counseling model include the ability to learn from others, development of relationships and a sense of community, and encouragement of accountability

during the treatment process. Also, this therapy model is efficient in terms of finances and human resources. However, the presence of individuals with antisocial characteristics can impair group functioning. Therefore, the benefit of the group session depends on the composition of the group as well as the skills of the group leader.

Key informants described several models of group therapy being used in clinical practice. One individual noted their OUD treatment program has two types of group counseling depending on the patient's stage in recovery: a group for new patients and another for those in longer-term stabilization. Topics covered by the group sessions may include elements of standard drug counseling and discussion about medication adherence. Another informant described structuring their group sessions to incorporate mindfulness meditation to address anxiety, a psychoeducational component, check-ins with participants, and recovery-oriented goal setting. In addition, this treatment program offers groups that address specialized topics and activities, such as recovery-oriented planning, recovery from trauma, 12-step, guided meditation, acupuncture, and horticulture.

In most cases, groups are led by behavioral health providers; however, one key informant described a model in which MAT-prescribing physicians co-lead group sessions with a behavioral health provider. The informant said the presence of the physician is highly valued because it helps the physician better understand the patient's struggles and strengthens the patient-provider relationship.

Cognitive Behavioral Therapy

This approach focuses on modifying maladaptive behavior patterns and dysfunctional thoughts in order to treat the SUD. CBT techniques emphasize the recognition of cravings and high-risk situations that may lead to relapse.[26] In 2012, Kouimtsidis et al. examined the impact of incorporating CBT into methadone maintenance treatment in the United Kingdom. The results fell short of statistical significance, but trends suggested that patients who received CBT had increased problem-solving skills and self-efficacy in avoiding drug use.[51] Ling et al. evaluated a CBT intervention that included individual counseling sessions based on a CBT manual that provided weekly session topics, exercises, and homework. The study, which assessed the impact of CBT, contingency management, and a combination of these behavioral treatments, could not find clear evidence that these interventions reduce opioid use.[52]

Three studies assessed the additive benefit of CBT in conjunction with physician management in patients receiving buprenorphine-naloxone in a primary care setting. Neither Moore et al. (2012) nor Fiellin et al. (2013) found differences in patient outcomes.[53,54] Both studies delivered CBT adapted from Carroll's 1998 manual *A Cognitive Behavioral Approach: Treating Cocaine Addiction*. A secondary analysis of data from the 2013 Fiellin et al. study suggested that prescription opioid users had improved abstinence outcomes when they received CBT, while those who used heroin did not.[55]

A variation of CBT, known as Cognitive Behavioral Therapy of Internal Cues (CBT-IC) was studied by Otto et al. in 2014. This novel treatment aimed to enhance resilience by incorporating stepwise exposure to emotional cues that patients had identified as increasing their drug cravings. Participants rehearsed adaptive behavioral responses and other coping skills such as muscle relaxation or controlled breathing. The study did not find significant benefits to CBT-IC in comparison to individual drug counseling.[56]

Stakeholders noted that elements of CBT are frequently incorporated within MAT, but providers generally do not rely upon a CBT manual. Rather, providers draw upon techniques of CBT when working with individual patients or groups of patients. The stakeholders' perspective about the diffusion of CBT is supported by data from the N-DATSS national survey of OTP directors. CBT was the type of counseling most frequently endorsed, with 68.5 percent of directors indicating that CBT was among the top three most common counseling interventions delivered within their programs.

Motivational Enhancement Therapy/Motivational Interviewing

Motivational Enhancement Therapy (MET) uses motivational interviewing techniques to encourage patients to work toward their goals, with the goal of supporting the patient's self-efficacy and promoting internally motivated behavior change.[26] Nyamathi et al. evaluated three methods for conducting motivational interviewing in methadone maintenance patients: one-on-one counseling, group sessions, or nurse-led hepatitis health promotion sessions. Drug use was significantly reduced from baseline to 6-month follow-up in the individual treatment and group conditions.[57] Stakeholders said MAT in current practice often draws upon elements of MET, with providers often using the principles of MET without adhering to a specific MET manual. Similarly, 63.0 percent of OTP directors participating in N-DATSS reported that MET was among the top three most common types of counseling within their programs.

Community Reinforcement Approach

Community Reinforcement Approach (CRA), originally developed for the treatment of individuals with alcohol use disorders, has been adapted for the treatment of opioids and other substances. CRA aims to create a positive environment reinforced by the individual's community, including family, work, and friends.[58] Often, CRA is combined with contingency management measures to provide tangible incentives, such as in Chopra et al. in 2009.[59] The core elements of CRA include functional analysis of drug use behaviors, behavioral skills training, employment assistance, relationship counseling, and social and recreational counseling. CRA emphasizes the coping skills and strategies of drug refusal, communication, problem-solving, and relapse-prevention.[60]

In 2007, De Jong et al. evaluated a CRA program in combination with naltrexone maintenance in outpatients with OUD. They created a CRA protocol based on the manual developed by Meyers and Smith. Participants received ten psychosocial sessions with experienced addiction counselors or master's-level psychology students, and 13 sessions in which physicians administered naltrexone, monitored addictive behaviors, and watched for adverse events. After 16 months, 24 percent of participants were continuously abstinent.[61] Three studies (Bickel et al., 2008; Christensen et al., 2014; Acosta et al., 2012) used CRA as the basis for web-based interventions, as discussed below. CRA is not widely used in current practice. Of 200 OTP directors participating in the N-DATSS survey, only one reported that CRA was among the three most commonly used types of counseling.

Contingency Management

Contingency management offers positive rewards or incentives for objectively measured behaviors to encourage behavior change and treatment adherence.[26] Contingency management has been widely studied with substance use in general and opioid use in particular. Interventions typically

entail one or more of several components: prizes, vouchers, and contingent take-home measures. For example, Hser et al. incentivized abstinence and attendance by allowing participants to draw from a computerized "fishbowl" for a chance to win encouragement awards or small, medium, and large incentives. The number of draws increased after consecutive weeks of meeting criteria for attendance and abstinence.[62] Similar prize draws, using this type of escalating schedule of reinforcement with varying magnitudes of rewards, were reported in Petry and Carroll,[50] Ling et al.,[52] and Chopra et al.[59]

Others have examined whether monetary-based vouchers can improve utilization of psychiatric services in an integrated care setting. In 2013, Kidorf et al. offered vouchers worth $25 to participants who maintained a full week of attendance to their scheduled psychiatric visits, individual counseling, and group counseling. They found these measures can improve the delivery of onsite and integrated psychiatric services.[63]

It appears that contingency management is more common in research than in practice. N-DATSS data indicated only 4 percent of OTPs reported that contingency management was among the top three interventions used in the program. Several key informants discussed the challenges associated with contingency management. Primarily, programs often lack the required resources. One informant said that offering a robust selection of incentives was not financially sustainable, and their program now offers small gift certificates and bus vouchers and tokens. Contingency management also faces staff-related challenges, such as staff turnover, loss of the change leader or clinical champion, and a lack of leadership buy-in. Staff may view contingency management interventions as simply rewarding patients for behaviors they are expected to do. One informant said that efforts to implement contingency management in the hospital were stopped by the hospital's attorney, who said Medicare would view the use of rewards as a kickback.

Key informants described some successes in introducing smaller incentives and modest contingency management measures, such as allowing take-home doses at methadone maintenance programs. In a 2011 study, researchers compared outcomes among patients who received supervised daily consumption versus take-home doses of methadone, with or without contingencies. Patients who received 7 days of take-home doses that were contingent on provision of drug-free urine specimens had higher retention rates at 12 months than either the control or the non-contingent take-home groups.[64] Similarly, Chopra et al. allowed patients to come into the clinic 3 days a week to receive their medication, but escalated to daily dosing if patients submitted a positive urine sample. Daily dosing continued until patients provided three consecutive drug-free samples. Also, poor clinic attendance and positive urine samples would trigger reduction of the buprenorphine dosage. After submitting a single drug-free urine sample, a patient could return to their normal dosage. These medication contingencies improved drug abstinence compared to standard care.[59]

In clinical practice, there is some evidence that MAT providers may apply contingencies, such as titrating the frequency of visits or days of medication, based on clinical progress. A national survey of buprenorphine prescribers found that escalating the frequency of office visits is common, with an average of 74.2 percent of respondents doing so to address ongoing drug use. Positive rewards were less common, with an average of 43.3 percent of patients receiving rewards in the past year (e.g., less frequent physician visits, more days of medication) for progress on objective measures (e.g., opioid-negative urine drug screens).

Medication Management

Medication management in conjunction with MAT is a relatively common approach in the literature. For example, in a 2011 study, Weiss et al. offered a robust form of medication management that included physicians reviewing the patient's medical and behavioral health problems, recommending abstinence, referring patients to self-help groups, and assessing cravings and substance use.[41] Three studies examined the role of medication management in primary care, and two of those assessed whether CBT offered an additive benefit.[54,55]

In 2012, the physician management intervention designed by Moore et al.[54] consisted of a brief, 15-minute session with the primary care internal medicine physician based on a manual for primary care management of opioid dependence with buprenorphine.[42] During each session, the physician reviewed the patient's drug use, assessed the patient's functioning, educated the patient about MAT, promoted abstinence and treatment adherence, encouraged lifestyle changes, addressed medical complications of opioid use or MAT, and referred the patient to community services as needed. The pilot study concluded the intervention was feasible and highly satisfactory for patients, though no significant impact on patient retention or urine drug test results was observed.[54]

In one of three treatment arms, Miotto et al. offered brief physician counseling in a primary care setting, which was implemented with relative ease. They noted that additional policies and procedures may be needed to deal with late or missed appointments.[47] Individuals with substance use often have difficulty adhering to schedules, and many staff in primary care have little experience working with these populations, and this situation may lead to frustration.

Another variation of medication management was explored by Berger et al. in a study of opioid-dependent veterans. Physicians prescribed buprenorphine-naloxone and conducted medication management either in a group setting or on an individual basis. Retention at 1 year was significantly higher among veterans in the group medication management model, perhaps because it created spaces for open and honest sharing, accountability among members, and support.[65] A key informant noted a group model of medication management, similar to a shared medical visit model, may help providers use their time efficiently while fostering social supports between patients.

In practice, the Massachusetts Collaborative Care Model maintains an intense degree of medication management, with nurse care managers playing a major role in delivering psychosocial supports.[66] Patients receive a regular check-in for the initial 3-4 months of treatment to assess the patient's experience with the medication and to discuss tolerance and dosages. Then, after a more detailed assessment across the seven domains of the Addiction Severity Index, providers set a treatment plan. Brief follow-up visits focus on positive reinforcement and encouragement of behavior change, rather than on any relapses or setbacks. The availability of a nurse care manager in this model appears to be a cost-effective and efficient way to support the physician in MAT.

Some primary care providers hesitate to prescribe buprenorphine because they feel they do not have the time or training to manage these complex patients. However, several key informants noted that the medication management involved is similar to what primary care providers conduct for other types of chronic, relapsing conditions such as depression, pain, heart failure, and diabetes.

Peer Services

Several key informants highlighted the role of peer services in the recovery process, although there are scant data in the literature about integration of peer services into MAT. Studies generally focus on substance use treatment generally and not just on opioid treatment. However, a systematic review by Rief et al., found a moderate level of evidence that peer services "reduced relapse rates, increased treatment retention, improved relationships with treatment providers and social supports, and increased satisfaction with the overall treatment experience."[67] Specific peer services mentioned included peer recovery coaches, peer recovery specialists, and peer navigators.

A key informant noted that peer services can be highly valuable for addiction, which disrupts motivation and the patient's self-identification. In a highly fragmented care system, this informant noted, peers help patients find necessary supports. Some peer support specialists provide case management services, helping to connect patients with childcare, health insurance, disability benefits, housing, residential care, and transportation services. When peer support specialists assume this role, counselors and clinicians can focus on clinical care.

Key informants perceived a high rate of implementation and use of peer services, and described positive anecdotal evidence and strong face validity regarding the use of peer services. Several informants expressed hesitance to invest in formalized peer supports in their own programs because of the lack of research on the effectiveness of peers in these roles. One informant said standards and reimbursement for peer services are less consistent in SUD treatment than in mental health, in part due to a lack of defined roles and tasks.

Self-Help

Although self-help is often recommended by providers, few studies have focused on evaluating the impact of these supports. A study by Monico et al. found that African American patients who attended 12-step groups had improved drug abstinence during the first 6 months of buprenorphine treatment.[68] Referrals to 12-step groups often are incorporated into medication management or other counseling interventions.[41,48]

Several key informants agreed that self-help and 12-step groups are widely used by patients and often encouraged by providers. These supports plays an important role because they are much more widely available than other psychosocial treatment options, have no cost to patients, and offer an opportunity to find a support system and care group. Only 5 percent of buprenorphine providers said their patients lacked access to local self-help support groups.[69] In a national survey of buprenorphine prescribers, 88.0 percent said they refer buprenorphine patients to local 12-step self-help groups, and 76.9 percent said most patients would benefit from involvement in such groups.

Narcotics Anonymous (NA) and Alcoholics Anonymous (AA) were the self-help groups that key informants mentioned most often; one informant identified SMART Recovery meetings as an alternative, non-12-step group. Some providers said they try to avoid pushing a particular group or approach. When counselors in one study required patients on buprenorphine treatment to attend 12-step meetings, outcomes were not improved compared with not imposing such a requirement.[68] Patients often have their own needs related to culture, personality, and readiness, so providers should be cautious about requiring participation in 12-step groups.

Some patients have reported feeling discriminated against by these groups for using pharmacotherapy to treat their OUD because it is not a true "abstinence-based approach." This may create a sense of internal pressure to discontinue agonist therapy programs more quickly.[68] One key informant said some providers advise patients to attend 12-step groups but not disclose their use of MAT. Another informant said providers may tell patients about local groups that tend to be more accepting of patients who receive MAT. Several informants mentioned that MAT patients tend to feel more welcomed at AA than NA, though attitudes within NA may be shifting.

Family Therapy

Family relationships can play an important role in providing support and encouraging change for individuals dealing with addiction. Family therapy can help engage partners, parents, or children in the patient's treatment to promote positive behavior change.[26] However, respondents to a survey of buprenorphine providers estimated that family or couples therapy was the least utilized counseling modality among their patients (14 percent of patients) compared to individual counseling (46 percent of patients) or group therapy (41 percent of patients).[69] Key informants generally did not describe family therapy as part of usual clinical practice.

Garrido-Fernandez et al. evaluated the impact of multi-family therapy with a reflecting team on patient outcomes for individuals in a methadone maintenance treatment program; the intervention improved measures of employment and support, drug use, and psychiatric condition. The intervention consisted of ten biweekly sessions that lasted 2 hours, attended by clients and their designated family members (e.g., partners, parents, siblings). By combining family counseling and group therapy, this model allows family members to learn from one another, share experiences, and improve their communication skills.[70]

As several key informants noted, support from partners and family members is critical for medication adherence. However, some family members do not appreciate the complex nature of addiction and MAT. They may hold negative perceptions about opioid agonist treatments, dislike the medication's side effects, or fail to understand that medications do not offer a "quick fix." Although family therapy and education can address some of these issues, informants said this approach appears to be uncommon in clinical practice.

Computer-Based or Phone-Based Interventions

One key informant said telephone or web-based psychosocial interventions hold great promise, and recent advances in technology allow for greater use of these methods. Such interventions can improve access to treatment for people in rural areas, and can make treatment available in facilities that otherwise lack the capacity to treat OUD patients. Internet-based interventions can provide support to counselors who lack the training, time, and resources for helping these patients.[71]

Web-based or mobile device-based interventions may facilitate dissemination of evidence-based approaches in a cost-effective manner that maintains fidelity.[72] These methods may allow more standardization and consistency with EBPs and structured models. For example, a key informant said telephone and web-based programs may be an effective treatment alternative for programs struggling to provide standardized psychosocial treatment with a large volume of patients, limited

physical space and staff resources, and counselors of varying abilities. However, it is unknown the extent to which these types of interventions are being integrated into MAT.

Several studies have assessed the feasibility of implementation and the efficacy of psychosocial interventions delivered via computer or phone. King et al. (2014) conducted a randomized clinical trial to evaluate eGetgoing, a web-based videoconferencing platform, to deliver individual counseling for patients in an OTP. They concluded web-based counseling may be an acceptable alternative because participants in web-based counseling and in-person counseling had similar attendance, drug-positive urinalysis results, treatment satisfaction, and therapeutic alliance.[73]

Three studies assessed computerized psychosocial interventions rooted in CRA. In 2008, Bickel et al. examined a combination of CRA treatment and vouchers, delivered by a therapist or an interactive computer program. Both treatment delivery methods produced similar outcomes related to opioid and cocaine abstinence that were significantly better than those of standard treatment.[72] Similarly, in 2014, Christensen et al. observed a benefit from adding an Internet-based CRA intervention to contingency management and buprenorphine for patients with OUD.[71] In addition, Acosta et al. studied the relationship between cognitive functioning and treatment outcomes of patients in a methadone maintenance program during a web-based intervention. Their results indicated that this technology-based intervention grounded in CRA principles could mitigate the impact of poor cognitive functioning, perhaps by "leveling the playing field" through the intervention's self-paced nature or its fluency learning approach.[74]

Two studies examined the effect of partially replacing standard counseling with a web-based behavioral intervention known as the Therapeutic Education System (TES). This interactive tool educates participants on skills and substance abuse-related behaviors. Marsch et al. (2014) found higher rates of opioid abstinence among participants who received TES.[75] In 2016, another study found that patients with a moderate or high frequency of prior treatment episodes had better opioid abstinence outcomes when treatment incorporated TES, compared with standard treatment.[76]

One study conducted a pilot program of a novel, interactive mobile psychosocial intervention called Check-In, delivered in conjunction with web-based TES. This mobile application was developed to provide flexible, on-demand support whenever participants needed it. Qualitative analysis revealed participants found the mobile intervention to be a useful treatment method, which they turned to during high-risk situations and to manage cravings.[77] Another phone-based support system named HereToHelp was evaluated by Ruetsch et al. in 2012. The study found greater medication compliance among patients who participated in at least three coaching calls using the system.[78]

However, such interventions pose some challenges for patients. For instance, this population may lack a cell phone with the necessary capabilities, or may often change their phone or phone number. Also, individuals receiving methadone maintenance treatment--many of whom are lower-income, middle-aged, and racial/ethnic minorities--may have less advanced phones or use their devices only for specific tasks.[77] Therefore, they may lack the skills or experience with mobile applications needed to successfully engage in the intervention.

While these technology-based treatment delivery methods appear promising, we have no data on the extent to which they are being used in the MAT context. Also, web-based or phone-based approaches that involve a live provider, as opposed to a self-paced educational module, presents additional challenges. Relevant policies and regulations may limit providers' ability to deliver this

care. For example, licensing laws may restrict a provider's ability to provide telehealth services to a patient in another state, or hospitals may have credentialing processes that do not recognize a clinician from another facility. Programs trying to implement telehealth services may face barriers related to broadband connectivity, and inadequate payment and reimbursement for these services.[79]

Medications and Settings

The types of psychosocial supports and services available to patients receiving MAT for OUD differ depending on the medication type and setting. For example, methadone must be prescribed in an OTP, subject to requirements around the inclusion of counseling services. Financial models may influence the psychosocial services offered. A commercial facility may be more focused on prescribing pharmacotherapy than offering psychosocial supports, while a FQHC serving the safety-net population may have integrated mental and SUD services onsite.

Smaller Primary Care Practices. As described by key informants, physicians prescribing buprenorphine in an office-based primary care setting may provide fewer direct psychosocial supports. Primary care settings often face severe resource constraints, both in terms of staff and time. Visits often last only 15-20 minutes, and staffing may only include a generalist trained medical assistant or nurse in addition to the physician. These physicians often refer patients to community counseling programs or other psychosocial services, sometimes simply providing a handout with contact information. Some physicians feel uncomfortable or frustrated with the absence of relationships to providers of psychosocial supports in the community, so they may be hesitant to prescribe buprenorphine. Even if the physician knows about appropriate resources, these services may not be widely available locally. One informant warned that policies that encourage more physicians to prescribe pharmacotherapy for OUD may decrease the likelihood that patients will receive psychosocial treatments, leading to reduced quality of care.

Federally Qualified Health Centers (FQHCs). These community health centers may serve as the middle ground between smaller primary care practices and specialty addiction treatment settings. While FQHCs vary in terms of size and whether they address mental and substance use disorders systematically, they often have a good mix of medical care and services to address psychosocial needs. However, a key informant noted it may be difficult to take procedures used in specialty care and apply them in a setting like an FQHC. Only a minority of these centers have behavioral health counselors with training on addiction and psychotherapeutic approaches, and providers often are limited to only 20 minutes with the patient. The HHS Health Resources and Services Administration (HRSA), a primary funder of FQHCs, has had grant and technical assistance programs in recent years to encourage FQHCs to provide care for mental and substance use disorders, including OUDs. Yet only about 28 percent of FQHCs were offering MAT for OUD as of 2016. A slightly higher percentage of FQHCs, 33 percent, had onsite or affiliated physicians waivered to prescribe buprenorphine, and about 36 percent reported providing Screening, Brief Intervention, and Referral to Treatment (SBIRT) for SUDs.

Opioid Treatment Programs (OTPs). These specialized SUD treatment settings are accredited by national accrediting bodies, certified by SAMHSA and registered with the Drug Enforcement Administration to dispense methadone to patients with OUDs. In 2016, SAMHSA reported there were 1,308 certified OTPs in the nation.[13] OTPs are required to offer counseling, but the types of

counseling sessions depend on the program and the patient's treatment plan. Medical oversight and trained substance use counselors also are required. Some OTPs offer the bare minimum of psychosocial services required to meet accreditation and certification standards, while others offer extensive programs. For example, the clinic of one key informant requires patients receiving methadone to attend group sessions run by drug and alcohol counselors as well as individual sessions with psychiatrists once a month. According to the *Federal Guidelines for Opioid Treatment Programs*, OTPs must conduct broad-ranging assessments of patients at admission that measure opioid use; use of tobacco, alcohol, and other drugs; co-occurring medical and psychiatric disorders; trauma; and chronic pain.[20] OTPs must provide Recovery-Oriented Systems of Care that address prevention of transmissible diseases, cultural and linguistic characteristics, gender and sexuality issues, criminal justice concerns, age-appropriate services, family involvement, and referral to community resources including recovery supports.

In the Hub-and-Spoke Model developed originally in Vermont and replicated in some other states, patients with less complex needs may receive MAT in primary care clinics ("spokes"), and receive additional services if needed in regional OTPs ("hubs").[80] "Spokes" are primary care clinics that provide MAT for less complex patients by using an office-based opioid treatment (OBOT) approach. "Hubs" are regional OTPs that care for more complex patients, dispense methadone if needed, support tapering off MAT, and provide consultative services to the spokes. Patients may transfer between a hub and a spoke on the basis of changing care needs.

OTPs are well-suited to managing more complex cases given their staffing and experience providing treatment to people with OUDs. Accreditation and certification standards require ongoing staff training and a quality improvement program. That said, key informant interviews suggest that the quality of services varies across OTPs.

Other Specialty SUD Treatment Settings. In addition to OTPs, a broad range of other specialty addiction treatment settings may provide residential, inpatient, intensive outpatient, or standard outpatient services. Until recent years, most such settings offered "drug-free" approaches to treatment, but some have adopted MAT approaches for alcohol and OUDs. In 2016, 27 percent of specialty SUD treatment settings offered buprenorphine, and 21 percent offered extended-release naltrexone.[13] The traditional addiction treatment setting, psychosocial services are a core tenant of care, and these specialty care settings are much more likely to have a robust offering of psychosocial interventions. Specialty SUD treatment settings are more likely than non-specialty settings to deliver buprenorphine treatment along with counseling. In a national survey of buprenorphine prescribers, those practicing in specialty SUD treatment settings reported that 62.9 percent of patients received counseling from other providers within the practice versus 32.1 percent of patients when prescribers worked in non-specialty settings. Furthermore, prescribers in specialty SUD treatment settings reported a smaller percentage of patients received no counseling (mean 6.7 percent), relative to prescribers in non-specialty settings (mean 13.6 percent).

Assessment and Measurement

Ongoing assessment of patients being treated for OUD is essential to provide information on medical and psychosocial factors to be addressed during treatment, and to guide adaptation of interventions to address emerging issues.[81] In addition, initial and ongoing measurement provides

the data needed for quality improvement efforts to make treatment programs more effective. Despite the strong case in favor of systematic assessment and ongoing measurement, it appears clinical practice varies widely and it is not clear that there is consensus within the field.

As one key informant noted, some specialty SUD treatment settings conduct a 90-minute to 120-minute initial assessment; however, such a model is incompatible with the typical primary care environment. Primary care visits are typically 15-20 minutes long, and even an initial assessment may be limited to 45 minutes.[42] Another informant observed that patient engagement is the critical goal early in the treatment process--and certainly in the first session--and said an extended assessment early on could interfere with engaging and motivating the patient to remain in treatment.

The ASAM model of assessment calls for examination of six dimensions in order to determine the appropriate level of care:

1. Acute intoxication and/or withdrawal potential.
2. Biomedical conditions and complications.
3. Emotional, behavioral, or cognitive conditions and complications.
4. Readiness to change.
5. Relapse, continued use, or continued problem potential.
6. Recovery/living environment.

Several studies of the ASAM criteria (McKay et al., 1997; Magura et al., 2003; Sharon et al., 2003; Angarita et al., 2007; Westermeyer and Lee, 2013) provide evidence that placement into the recommended level of care may result in better patient outcomes, compared with selection of either more or less restrictive treatment alternatives.[82-86] However, two key informants questioned the strength of this evidence and suggested that patient engagement and retention in treatment are more important than the level of care, especially during MAT for OUD. Others suggested that extended assessment is impractical in primary care, emergency departments, and other fast-moving environments, and said work on a briefer assessment process may have potential. A shorter version of the ASAM assessment, CO-Triage™, has been well received in at least two states, but is still undergoing systematic comparison with the extended instrument.[87]

As discussed in the *Manual for Primary Care Management of Opioid Dependence with Buprenorphine* (Fiellin et al., 1999), a primary care clinical intake interview for a person with OUD touches on many of the same dimensions.[42] In a 45-minute intake, the physician or nurse addresses medical, psychiatric, and substance abuse problems, as well as the patient's history and current social, vocational, and living situation. Such a clinical intake is an art that providers conduct and record inconsistently, yielding limited data that can be compared across patients.

One key informant reported using the Brief Addiction Monitor (BAM) to assess response to MAT. The 17-item BAM instrument was developed for use in veteran SUD treatment settings for assessing progress at monthly or weekly intervals during treatment.[88] The instrument can be administered in 5 minutes by interview, on a paper form, or via a smartphone app.[89,90] The responses to individual items can guide the treatment focus at each session.

Other instruments that key informants mentioned as being used during MAT included the Behavior and Symptom Identification Scale (BASIS-24),[91] a commercially licensed instrument that assesses

mental and substance use conditions, and the Life Events Checklist for DSM-V[92] that identifies traumatic life events that may require attention during treatment.

The administration of urine screening is inconsistent across programs and is of questionable validity in the absence of random scheduling and observed collection. Practices vary widely as to the use of systematic measures, tracking of progress, and the use of data to support continuous quality improvement. To some degree, the diversity of settings in which MAT is provided makes different approaches inevitable, but the lack of consistency impairs assessment of what works with which populations in which circumstances.

Needs of Special Populations

Several key informants noted psychosocial support services likely have an additional role in select patient populations, but there is insufficient research to identify how best to define those populations or which interventions would have a greater impact. However, informants said several groups may benefit from additional or tailored psychosocial support services.

Chronic Pain Management. Chronic pain is a common co-occurring condition for individuals with OUD. In a national survey of buprenorphine prescribers, physicians estimated that, on average, 39.6 percent of their patients in the past year had chronic pain. Opioid agonist treatments such as buprenorphine and methadone may offer some pain reduction, but there is a ceiling effect. Therefore, one key informant argued, it is important to provide other pain management therapies. Chronic pain may be a precipitating cause of an OUD, so providers should address this issue during addiction treatment.

Age-Based Approaches. Two key informants said psychosocial supports should differ depending on patient age. The most recent revision of the ASAM criteria includes an extended section on specialized assessment and treatment of adolescents, for example.[93] In one study, Weinstein et al. found young patients had lower retention rates in treatment, but the cause of this finding was unclear.[94] One informant suggested that drug use patterns and psychosocial support needs differ between younger and older adults. It may be helpful to adjust intervention strategies based on variation in patients' social networks.

Pregnant and Postpartum Women. Approximately half of pregnant women admitted for substance use treatment reported misuse of opioids in 2012.[95] Pregnant and postpartum women may have distinct needs and benefit from tailored psychosocial treatment as part of MAT. One key informant said her program has a special group meeting for mothers, attended by a pediatrician with expertise in SUDs. The organization also participates in the CHARM (CHildren And Recovery Mothers) Collaborative, in which providers meet monthly to coordinate wrap-around services for families and individuals dealing with pregnancy affected by substance use. However, across the field, there may be few specialized programs for these women. The 2012 NSSATS found that only 13 percent of outpatient and 13 percent of residential treatment facilities offered programs specifically for pregnant and postpartum women.[95]

Co-Occurring Disorders. Individuals with co-occurring mental and physical disorders represent another patient population with special needs. A key informant noted that people with co-occurring

disorders have more instability in their lives, and successful treatment hinges on being able to address both issues. For example, injection drug use among some opioid users puts them at higher risk for contracting HIV. Some research has focused on the impact of physician counseling that emphasizes adherence to MAT and antiretroviral regimens, though the optimal level of counseling is unclear.[96]

Many early studies of opioid treatment in primary care excluded patients with untreated psychiatric comorbidity or other SUDs, so the impact of psychosocial interventions in this population is less well known. However, a key informant noted that, given the high rates of comorbidity, it is critical to ensure that treatment addresses the psychiatric needs of patients with co-occurring mental disorders and OUD. For example, prescription opioid misuse is associated with an increased risk for suicidal ideation, based on an analysis of the 2014 National Survey of Drug Use and Health. Individuals who often misuse opioids were more likely to make plans for suicide or suicide attempts.[97] Major depressive episodes and vulnerability due to family and social dysfunction in patients with OUD may contribute to the elevated risk for suicidal ideation.[98] Individuals with OUD often experience stigma, which fosters low self-esteem and may contribute to their perception they are "not deserving" of treatment or rescue should they overdose.[99]

A history of trauma is common among opioid-dependent patients and should be addressed during treatment. In one study, approximately 80 percent of adult patients receiving buprenorphine treatment for OUD had experienced at least one type of childhood trauma (sexual abuse, physical abuse, emotional abuse, physical neglect, or witness to violence).[100] Comorbid post-traumatic stress disorder can pose a challenge for clinicians treating OUD, as symptoms of the two disorders may be difficult to differentiate. Fareed et al. recommend combining MAT pharmacotherapy with evidence-based CBT specifically designed for this population to improve outcomes.[101] A key informant described offering a group meeting that focuses on trauma and that uses the Trauma Recovery and Empowerment Model and Seeking Safety evidence-based models.

Barriers to Psychosocial Supports in Practice

The previous discussion described wide variation in the use of psychosocial support models in research studies and clinical practice. As detailed below, several factors complicate the delivery and efficacy of psychosocial treatment in MAT.

Current Delivery System

Need for Integrated Care. Historically, medical, mental health, and SUD services were delivered in separate silos, even though many patients had co-occurring health issues that required all three types of services. OUD treatment was delivered outside the mainstream medical system, and there was often little communication or coordination between providers. Some integration is occurring, as seen in the uptake of buprenorphine waivers among physicians across a range of medical settings, including individual practices, group medical practices, FQHCs, and hospital settings. Still, OUD pharmacotherapy remains available in only a minority of specialty SUD treatment programs.[13]

Several key informants commented that having largely separated systems for medical and behavioral health treatment impedes the successful delivery of MAT and whole-person care. By definition,

MAT entails both medication and psychosocial intervention. Integration of medical and behavioral health care systems will help ensure that individuals with OUDs receive effective, coordinated care.

Primary care settings present an opportunity to reach individuals who are not receiving the substance use treatment they need. Primary care providers are "well positioned to identify and engage individuals who require--or are at risk of requiring--treatment."[102] These providers also have experience with chronic disease management and providing ongoing care for a patient's condition while moving them to specialty care settings if clinically appropriate.[103]

Key informants stressed the need for bi-directional integration of care--integrating primary care services into specialty OUD treatment *and* integrating MAT into primary care. As previously discussed, patients in OUD treatment often have chronic medical conditions, such as HIV/AIDS, diabetes, and hypertension. Patients with OUD also have high rates of co-occurring mental disorders such as anxiety and depression. Treatment that addresses all of a patient's conditions will be more successful, and integrating primary care into specialty behavioral health treatment settings can reduce barriers to accessing needed services. One informant said her program started by offering primary care services that were easy to incorporate such as flu shots, HIV testing, and hepatitis C testing, and now provides comprehensive primary care services.

Limited Provider Relationships. Given the structural barriers, there is a lack of connection between providers in the medical and behavioral health systems, which "unnecessarily impairs the health of individuals, populations, and whole communities, and contributes to income, ethnic, and gender disparities in health care as well."[103] A key informant described how medical and behavioral health clinicians have language-related communication challenges that reflect differences in training and organizational culture. Furthermore, the historic segregation of medical services and OUD in separate organizations has limited opportunities to form collaborative treatment teams with the full range of skills needed to care for the whole-person.

The medical and behavioral health providers are each a critical piece to the puzzle. Yet, MAT brings together medical and substance use providers who may have little experience working together. Providers often rely on interpersonal relationships for referrals and may lack the comfort level needed to successfully collaborate across systems. Key informants expressed the need for providers to develop a mutual respect and understanding for each other's roles. When delivering MAT, they are working on the same team, but approaching the problem from different directions and with too little coordination.

Settings that already offer both physical and behavioral health services, such as some FQHCs, may be more successful because staff are co-located and have previously established interpersonal relationships, according to key informants. Program staff at these facilities with experience treating patients with mental health conditions often are comfortable providing psychosocial services, and can serve as a support resource to physicians and other team members.

Limited Communication and Information Sharing. The historical divide between medical and behavioral health systems impairs communication and information sharing. As one informant noted, there is no systematic way to ensure that communication occurs when MAT patients are referred to other organizations for psychosocial supports. Information sharing is critical to determine whether a patient has stabilized, and to monitor patients who may experience relapse or drop out of treatment. According to a key informant, ideal collaboration between medical and psychosocial treatment

providers would include regular communication about patient attendance, urine screening results, and other basic clinical outcomes. Several informants said the most successful communication occurs in a team-based care model with clearly defined roles and frequent team interaction.

However, several challenges serve as barriers to collaboration. It takes considerable time to follow up with other providers, particularly when those providers work in different organizations and do not respond to requests for information. Organizational leadership may view consultations between medical and psychosocial treatment providers as reducing billable time and the number of patients who can be seen. As an informant described, few payers reimburse for time spent communicating between providers, and few quality measures assess whether that communication is happening. Some informants said communication between providers who are co-located within the same facility occurs through electronic health record (EHR) systems, yet others noted that those systems do not yet provide a useful resource to facilitate inter-provider communication.

Key informants frequently noted that federal privacy regulations--specifically Title 42 of the Code of Federal Regulations, Part 2 (42 CFR Part 2)--hinder information sharing and the integration of behavioral and physical health services. In 42 CFR Part 2, additional privacy protections are afforded to individuals with SUDs, with patient consent required for disclosures of protected health information. The intent of these provisions is to encourage individuals with SUDs to seek treatment without fear of stigma or prosecution.[104] While recognizing the important goals of these regulations, one key informant said they create a challenge to coordinating MAT care in different organizations. Patients may refuse to allow their information to be shared, or providers may be overly cautious about disclosing information to other providers. A new final rule that went into effect on March 21, 2017, attempted to better align 42 CFR Part 2 with the Health Insurance Portability and Accountability Act and allow for new value-based and team-based models of care. However, some stakeholders, including the American Psychiatric Association, do not believe the revisions adequately address barriers to integrated care.[105] Further, informants still viewed 42 CFR Part 2 as a barrier to effective communication between medical and behavioral health organizations.

Lack of Patient-Centered Care. Several key informants noted the current delivery system is not designed to accommodate the particular needs or preferences of patients. Treatment often is dictated by what providers or programs offer, rather than what would best meet patient needs. In effect, many specialty OUD treatment providers have a "one size fits all" approach to services within a given level of care. As one informant described, providers may artificially create a set of ideas about the psychosocial supports that all patients need, and may not prioritize shared decision making or patient engagement. This informant maintained that patients with OUD differ in the level and types of psychosocial supports they need or will find beneficial.

Inflexibility in providing substance use treatment (such as offering only fixed appointment times during regular business hours) may create a barrier for patients who have jobs, cognitive limitations, or a lack of reliable transportation. Programs that are more flexible facilitate individual tailoring, encourage shared decision making, and support the development of self-management skills. One key informant said her program's walk-in approach to psychosocial supports (no appointment required) ensures access for people with limited economic resources or comorbid mental illness. The program allows people to choose from a menu of services and decide how often they would like to attend.

Need for Community Outreach. The treatment delivery system has expanded the types of settings that seek to link individuals with SUDs with care. Novel programs have sought to increase

the identification of SUD and OUD treatment needs (e.g., SBIRT) in emergency departments, primary care, and other ambulatory care settings. However, national data indicate that less than 11 percent of individuals in need of treatment for SUDs actually received care in 2016.[106] People with OUDs often have impaired cognitive functioning and an unstable lifestyle, making it difficult for them to seek treatment. Therefore, as one key informant argued, there is a great need to improve community outreach to engage people in treatment. She said state policies should encourage the use of the social network model to identify individuals with OUD and offer them treatment. An active approach to outreach--combining motivational strategies with warm handoffs--may decrease barriers to treatment.

Workforce

Workforce Shortages. Many communities face shortages of prescribers, providers of psychosocial services, or both, resulting in decreased availability of MAT. In 2016, HRSA designated over 4,600 mental health care health professional shortage areas, which encompassed more than 106 million United States residents.[107] For instance, access to psychiatrists declined by approximately 10 percent between 2003 and 2013.[108] About 40 percent of psychiatrists are in private practice and accept only cash payment, which further restricts access to psychiatrists.[108] In turn, a limited behavioral health workforce may reduce physician willingness to provide MAT. For example, in one study, physicians who had buprenorphine waivers but were not actively prescribing cited a lack of mental health and psychosocial supports as one of their main barriers to delivering MAT.[109]

In addition, rural and urban areas have significant disparities of behavioral health workforce. No behavioral health providers are available in approximately 17 percent of non-core rural counties, defined as counties not part of a metropolitan or micropolitan area. Non-core counties lack psychiatrists (80 percent), psychologists (61 percent), social workers (35 percent), psychiatric nurse practitioners (91 percent), and counselors (24 percent).[110] Insufficient access to qualified behavioral health practitioners in rural areas limits availability of basic services as well as specialty substance abuse treatment programs, including those for women or racial minorities.[111]

Rapid aging of the behavioral health workforce is another challenge. The Bureau of Labor Statistics reported the median ages of behavioral health professionals: psychiatrists (55.7 years of age), psychologists (50.3 years of age), social workers (42.5 years of age), and counselors (42 years of age).[112] In addition, the growing United States population will likely increase the strain on the already insufficient behavioral health workforce. HRSA projects large-scale shortages of the following behavioral health provider categories by 2025: psychiatrists; clinical, counseling, and school psychologists; substance abuse and behavioral disorder counselors; mental health and substance abuse social workers; mental health counselors; and school counselors.[113] Professional shortages are likely to limit prescribing of medications in MAT, and the availability of psychosocial supports for patients in treatment. New policies are needed to encourage people to enter these fields by providing training stipends, fellowships for minorities, mentoring programs, loan repayment, and clear career trajectories.[114]

Staff Retention Issues. The behavioral health workforce often faces challenges related to burnout and staff turnover. Burnout, defined as emotional exhaustion leading to depersonalization and detachment from the client's needs, can lead to stress-related mental health issues for counselors and other behavioral health providers. Focus groups of substance use treatment counselors suggested

that burnout develops in part due to overwhelming stress from inadequate supports while dealing with high caseloads and treating challenging, complicated patients. This research suggested that burnout could be prevented if there were adequate support from co-workers, better clinical supervision, and self-care measures for counselors.[115]

One study of specialty substance abuse treatment organizations found that annual turnover was approximately 33 percent for counselors and 23 percent for clinical supervisors.[116] Turnover can be costly in terms of the financial costs to hire and train new staff, as well as through impairment of the therapeutic relationship with patients.[112] In addition, turnover may hinder a program's ability to implement EBPs, including psychosocial supports for patients receiving MAT. Finally, turnover can also take a toll on remaining staff by increasing their stress and work burden.[112] Newer models of MAT rely on advanced practice professionals and nurses for addiction care, and these team members need adequate supervision and support to prevent burnout.

Inadequate Education. The National Center on Addiction and Substance Abuse released a report in 2012 that declared …

> "For just about all known diseases other than addiction, treatment is provided within a highly-regulated health care system. In contrast, patients with the disease of addiction are referred to a broad range of providers largely exempt from medical training and standards (for many of whom the main qualification may be that they themselves have a history of addiction) who work within a fragmented system of care with inconsistent regulatory oversight."[117]

Medical and behavioral health curricula do not include adequate education about OUD and MAT. Key informants observed that physicians, advanced practice professionals, and nurses often lack a thorough understanding of OUD or the rationale and goals of MAT. Historically, addiction medicine is taught as an elective, which reinforces the cultural narrative that substance use is separate from other medical conditions. One informant expressed frustration, noting that training on any other disease as prevalent as OUD would never be considered "optional." The National Center on Addiction and Substance Abuse recommends making core clinical competencies related to substance use and addiction mandatory components of all medical school curricula, medical residency training programs, licensing and board certification exams, and continuing medical education requirements.[117] The National Health Care for the Homeless Council recommends that curricula frame SUDs and their management as similar to other chronic diseases.[118]

Similarly, key informants noted that behavioral health providers often have not been educated about pharmacotherapy or their role when counseling patients receiving MAT. Counselors frequently do not understand the differences between the medication options or the associated side effects. Also, while there is a well-established body of research findings about risk of relapse with premature discontinuation of MAT, many behavioral health providers do not know to properly communicate this information to their patients.

Some members of the behavioral health workforce do not routinely receive higher education. The 2012 National Center on Addiction and Substance Abuse report noted that addiction counselors comprise the largest share of the workforce in addiction treatment facilities, and most of these individuals have only a bachelor's degree, or even in some cases, only a high school education.[117] In-service training and continuing education are especially important for these individuals.

Limited Ongoing Training and Continuing Education. Ongoing training and continuing education provide opportunities to learn about EBPs, including the use of psychosocial supports in the treatment of OUD.[118] However, budgetary constraints may prevent behavioral health providers from accessing educational opportunities. A focus group of behavioral health counselors said that paying out of pocket for continuing education hindered their access to needed training.[111] Without ongoing education and training, providers may be unable to apply information about new approaches related to psychosocial support services for MAT. The Providers' Clinical Support System for Medication-Assisted Treatment (PCSS-MAT) project aims to provide free training and mentoring on MAT for OUD to health professionals through online modules, webinars, and small group discussions with experts. PCSS-MAT resources address the basics of pharmacotherapy treatment, working in integrated settings, psychosocial treatment considerations, and management of co-occurring mental disorders.[119]

Inadequate Clinical Supervision. Key informants identified clinical supervision as a critical but underused component for strengthening the workforce. Even when medical and behavioral health providers are trained on how to use MAT, effective clinical supervision is needed to monitor their work and ensure mastery of key clinical skills. Without supervision, it is difficult to ensure that patients are receiving high-quality treatment and adequate psychosocial supports. Adequate supervision and support may build confidence and encourage more providers to offer MAT.

Key informants noted that MAT programs can take a team-based approach in which medical and behavioral health providers hold meetings to discuss patients. One informant described these meetings as an opportunity to create a collaborative culture and strengthen relationships between providers. Peer mentoring programs, where experienced MAT clinicians consult with newer providers, also offer support to providers. An informant described an existing peer mentoring program in which an expert was always available to staff by phone to quickly provide support as needed. Project ECHO (Extension for Community Health Care Outcomes) is another model for providing periodic support and guidance from knowledgeable professionals. The ECHO model helps create an online community in which specialists with addiction expertise mentor and support community providers. Case-based learning enhances the providers' knowledge and skills related to addiction medicine and opioid treatment.[120]

Stigma

Social Stigma. Too often, substance use and addiction is seen as a self-inflicted condition caused by a moral failing or character weakness, rather than as a chronic, relapsing brain disease.[29,121] Stigma is driven by ignorance, misinformation, and fear.[122] In one nationally representative public opinion survey, most respondents said individuals with prescription OUD are to blame for their condition (78 percent) and lack the self-discipline to take prescription opioids without developing an addiction (72 percent).[123] Similarly, some view individuals receiving MAT as "too weak to overcome temptation."[29] Patients on methadone maintenance therapy report common misperceptions that methadone, like other opioids, gets a person "high."[124]

These inaccurate and stigmatizing perceptions of addiction influence other areas of society, such as criminal justice policies, political opposition to adequate funding for substance use treatment, and zoning laws for treatment facilities.[29] In one public opinion survey, 54 percent of respondents said

landlords should be allowed to deny housing to a person with drug addiction, and 76 percent opposed increased government on subsidized housing programs for people with drug addiction.[125]

Stigma may lead to a lack of respect for professionals treating SUDs, which in turn discourages people from practicing in the field.[111] Negative public opinions about SUDs also may influence the views of family members and friends of patients receiving MAT, and thus impact whether a patient stays in treatment. One key informant noted that stigmatizing views of MAT by family members may encourage patients to exit treatment prematurely, an event that often leads to relapse.

It is important to educate communities about addiction to help re-frame their views of the disease and its treatment. Strategies to prevent stigma include information dissemination, education, community organizing, and policy change. Awareness and education efforts need to demystify recovery, emphasizing that it is a continuum rather than a binary state, and that relapse is undesirable but common.[122] A Johns Hopkins University study of this topic concluded that "narratives combining personal stories with depictions of structural barriers to mental illness and substance use disorder treatment can increase the public's willingness to invest in the treatment system."[126]

Stigma from Providers and Staff. A systematic review reported health professionals often have low regard for individuals with SUDs. In part, the stigma arises from perceptions that people with SUDs are "potentially violent, manipulative, or poorly motivated." Such beliefs may lead to suboptimal care characterized by shorter appointments and less personal engagement from providers.[127] Other staff, such as front desk personnel, may act disrespectfully to patients with OUDs without realizing the impact of their behavior on the likelihood that patients will remain in treatment. Several key informants reported that, in their experience, providers who have gained experience with working with MAT patients have found it rewarding to witness the improvements in their patient's lives. One informant said the concept of "deservedness" plays an important role in stigma. Providers may be discouraged by patients who do not succeed early on in treatment, and may focus more energy on patients who adhere to treatment. Providers may benefit from efforts to humanize recovery. An informant emphasized the value of hearing stories from people in recovery, which reinforce the importance of treatment and the impact it can have on someone's life.

Many SUD treatment providers who deliver counseling still believe recovery requires abstinence from all drugs, including methadone and buprenorphine. Some providers may encourage patients to taper off the medications, and believe that failure to do so amounts to weakness.[121] Studies have indicated that a substance use counselor's knowledge of and attitudes regarding MAT are related to their education and experience in the field, as well as their norms and values. For example, counselors who are themselves in recovery or who endorse a 12-step ideology are less likely to be knowledgeable about MAT.[128] One key informant speculated that the root cause of counselors' lack of knowledge about medications is their discomfort with the concept of MAT. Social workers, in particular, often play an important role in referring clients to physicians for psychiatric medication management. Therefore, efforts to inform social workers about MAT may increase their advocacy for MAT and referral practices.[128]

Stigmatizing language can reinforce negative perceptions of patients with OUD and of MAT. Providers should use person-first language and avoid stigmatizing terms such as "abuser" or "addict." Similarly, providers should not use the terms "replacement" or "substitution" when referring to MAT, as doing so reinforces the misconception that these individuals are trading one

drug for another.[129] Also, providers and staff should not refer to drug test specimens as "dirty" or "clean," but rather use clinical terms such as "positive" and "negative."[29]

Stigma from Self-Help Groups. Self-help groups such as NA and AA vary in how accepting they are of individuals receiving pharmacotherapy. Some group members view opioid agonist therapies as a recovery "crutch" and therefore do not consider time taking medication to be "clean time."[68] A bulletin to the NA World Service Board of Trustees from 1996 shows that, historically, it was common practice to ask NA members on opioid agonist therapy not to speak during meetings and to exclude the individuals from service positions within the group.[130] Today, some key informants reported that they still avoid referring patients to groups that are known to be less welcoming and more rigid in their definition of abstinence. Unfortunately, this can reduce the number of locally available and convenient meetings that individuals with OUD receiving MAT can attend. Several informants reported that AA has shifted over time to become more welcoming than NA to individuals on MAT.

Stigma from Patients. Self-stigmatizing attitudes may discourage patients from seeking or staying in treatment.[29] Individuals with SUDs often experience low self-esteem and may blame themselves for their struggles in treatment and how their actions may have affected others.[122] Patient attitudes toward psychosocial services may also influence their commitment and engagement with treatment. One key informant commented that patients may associate psychosocial supports with traditional therapy that they would prefer to avoid. In addition, patients may not fully understand the chronic, relapsing nature of their condition. Some patients may want medication to be a quick fix, and may not wish to address some of their additional mental health and lifestyle needs.

Logistics

Patient-Related Barriers. Engagement in psychosocial supports may prove challenging for some patients. Housing and employment status can help patients build stability in their lives and work toward recovery, or create barriers if they are not satisfactory. A patient's recovery environment, including "the social network, those living in the residence, and stability of housing, can support or jeopardize treatment."[29] Several key informants noted that stable housing is a challenge for many patients who are receiving MAT. Securing employment also can be a challenge. In addition to providing income (and often insurance to pay for MAT), having a job introduces structure and purpose to the life of an individual receiving MAT.[131] However, an inflexible work schedule may make it difficult to attend counseling, which is typically offered during regular business hours.

A lack of childcare poses a difficulty for parents who need to attend frequent treatment appointments. Parents often end up missing appointments or bringing their children to counseling sessions, which may be distracting. Supervised onsite childcare would address this issue, but is rarely available due to limited resources and burdens created by licensing and insurance requirements.[29]

Several key informants noted that patients may face challenges with transportation to attend medication and counseling appointments. In particular, individuals in rural communities often lack access to a well-developed public transit system.[132] In a series of focus groups, rural counselors of substance use treatment services described how patients often rely on family and friends for transportation to and from self-help meetings or counseling sessions. This may be problematic if the other individuals are not supportive of the patient seeking treatment.[111]

Research has shown that shorter travel distances to substance use treatment services improves treatment access and retention.[111] Yet in a study of patients receiving methadone, the median commute from the patient's residence to the treatment program was 7 miles, with roughly one-quarter of patients traveling more than 15 miles. Patients in the southeast and midwest traveled longer distances to OTPs, and were more likely to cross state lines to do so.[133] For individuals in methadone treatment who must attend the clinic multiple times a week, if not daily, lengthy travel may hinder their ability to stay in treatment. Moreover, traveling to appointments can be costly. In one survey, patients in a methadone clinic reported spending nearly $50 a week on transportation for clinic visits.[134] Some programs provide patients with transportation vouchers and tokens, or connect patients to Medicaid-supported transportation services. However, a key informant noted that these services are often inadequate and understaffed, and serve only individuals with high-priority needs. Another informant noted that the individuals operating Medicaid-supported transportation do not always understand the frequent, or even daily, appointments associated with MAT.

Several key informants said the burdensome intake process of a MAT program can create a barrier. New patients often must undergo a complicated biopsychosocial assessment before they can receive counseling. Patients may be discouraged from seeking treatment and become lost to follow-up when the initial visit focuses on assessment rather than treatment services.

Provider-Related Barriers. Medical and behavioral health providers often say they lack time to provide adequate psychosocial supports. Office-based physicians delivering buprenorphine often feel overburdened and thus unable to provide in-depth counseling or medication management. Focus groups of substance abuse counselors suggested that insufficient time for one-on-one care leads to less than optimal treatment.[111] Psychiatrists report that low job satisfaction is linked to limited time with patients to discuss behavioral health conditions, evaluate the effects of medications, and provide additional support.[108] Similarly, MAT programs at FQHCs may have more time-based restrictions than specialty care. A key informant noted that psychotherapists in integrated settings must adjust to the shorter appointments that are the norm in primary care.

In addition, substance use counselors report an overwhelming burden of bureaucratic tasks such as paperwork, which may lead to frustration and burnout.[111] As one key informant described, the time spent on paperwork at intake and discharge reduces the time counselors spend seeing and treating patients. Electronic medical records in particular impose a burden, given increased requirements for documentation and data entry.[108] Also, providers report a challenge with following up with patients who miss appointments due to frequent changes in patient phone numbers and addresses.

Payment and Reimbursement

Limited Resources and Reimbursement. The behavioral health system, and particularly SUD treatment, is seriously underfunded. Substance use treatment services are reimbursed at rates that are often less than those for other health conditions.[135] A key informant noted that reimbursement disparities also occur among behavioral health settings, with substance abuse services reimbursed at lower rates than similar mental health services. Also, automatic rate adjustments to account for inflation are standard in medical services, but some states do not have comparable regulations for behavioral health services.

Inadequate reimbursement hinders providers in offering high-quality care, and often is tied to limited use of EHRs, EBPs, and quality metrics.[135] One key informant noted that the lack of quality measurement in the substance use treatment system devalues the services and leads to insufficient payment. Value-based payment models could improve the quality of care, patient outcomes, and provider accountability.[136] Reimbursement also is an obstacle to implementation of patient-centered staffing models, including onsite prescribing and integrated services.[137] A key informant said there are no mechanisms to bill for additional services such as nurse-delivered education on disease management. He cited a need to support individuals on MAT by developing a strategy for using billing codes related to nurse education about chronic diseases such as diabetes and asthma.

Inadequate Compensation. The overall lack of resources within the substance abuse treatment system leads to low salaries and limited benefits.[114] A 2011 survey by the National Council for Community Behavioral Healthcare found that individuals working in behavioral health organizations are paid less than their counterparts in general health care. For example, a master's-level social worker in behavioral health earns $5,100 less than in general health care, and a registered nurse in behavioral health earns $13,500 less than the national average.[138] Also, negative perceptions of people with behavioral health conditions contribute to the devaluation of behavioral health care providers and to salaries substantially lower than those of their medical counterparts.

Medicaid Billing Restrictions. Approximately 38 percent of individuals with OUD are covered by Medicaid.[139] Therefore, Medicaid restrictions on delivery of care may pose barriers to delivery of psychosocial supports. For example, integrated settings that offer multiple services are more convenient for patients, especially for those taking time off from work or traveling long distances for the appointments. However, some state impose limits on same-day billing, hindering patients in receiving medical and psychosocial services in one visit. Despite a common misperception that the Federal Government prevents same-day billing, State Medicaid agencies actually impose these restrictions. Seven states explicitly do not allow same-day billing for both medical and behavioral health services, and 17 other states limit reimbursement depending on the services provided and the setting. Most Medicaid beneficiaries (nearly 37 million individuals) live in states that restrict same-day billing for behavioral health.[140] These limits hinder patient-centered care approaches, including coordination of behavioral and medical health services, and interdisciplinary team-based care.

In addition, some Medicaid policies restrict access to medications in an effort to increase the use of psychosocial services in MAT. Many State Medicaid agencies condition prior authorization of buprenorphine on documented compliance with counseling requirements. In 2013, there were 21 states that required physicians to certify that a patient intends to participate or is already participating in counseling. Some states even require physicians to submit documentation related to counseling, such as a treatment contract or an attendance record.[141] Such policies may create barriers to accessing MAT and may discourage providers from prescribing the medications. Restricting access to medications for patients unable or unwilling to engage in counseling may have adverse effects.

4. IDEAL MODELS OF PSYCHOSOCIAL SUPPORT

The literature review and interviews with key informants identified a set of themes regarding the components of an ideal model of psychosocial support services in MAT. These themes relate to the conception of the underlying disorder and its implications for treatment, the central role of the individual patient in the treatment process, adaptation of the treatment process during each phase of care, and the importance of providing recovery supports. A second set of themes relates to models of MAT delivery and support, including how to support individual providers so they can triage patients to the settings that are most appropriate for their needs.

Key Elements

Addiction as a Chronic Disease. Key informants stressed the need to treat OUD as a chronic, relapsing disease. Similarly, ASAM has noted, "Much like type 2 diabetes, hypertension, and asthma, opioid addiction cannot be cured; however, it can be treated and managed."[142] The chronic disease management approach should be embedded in MAT and incorporate psychosocial support services that encourage self-management after initial patient stabilization. Medication is essential, but will not bring about the crucial behavioral changes required to manage the chronic condition of addiction. Pharmacotherapy and psychosocial supports complement one another to work toward long-term recovery and the ability to recover from relapses. Short courses of MAT are unlikely to lead to long-term recovery. Providers, patients, and their families need to understand that, like other chronic diseases, recovery from OUD is a continuum rather than a binary state, relapses are common, and long-term MAT may be necessary.

Patient-Centered, Flexible Care. Key informants noted that OUD is not a monolithic condition; rather, there is a spectrum of severity and varying needs. Some people with OUD are highly functional, are motivated to engage in treatment, and do well with less-intensive psychosocial supports. Meanwhile, others have faced substantial life challenges (e.g., trauma, incarceration) and/or have challenging co-occurring conditions, such as psychiatric comorbidities. An ideal model of care would be flexible and not offer a "one size fits all" approach to MAT and psychosocial supports. One informant noted that specific treatment methods may be much more successful for certain patients depending on their personalities (e.g., they may be uncomfortable in group settings and make better progress in one-on-one counseling).

A patient-centered approach to MAT would include, as previously noted, an initial assessment and intake process that is streamlined to facilitate induction onto the medication, provides treatment quickly and on-demand, and gathers additional biopsychosocial information as needed to allow for tailoring of psychosocial services to meet patients' needs. Also, patients should be engaged in shared decision making to help determine their treatment plan and set individualized goals.

Selection of medications should be based on patient preference and history with medications, OUD severity, other medical conditions, and lifestyle factors. The 2017 report of the President's Commission on Combating Drug Addiction and the Opioid Crisis made this point in recommending that treatment for OUD include, in part, "Access to MAT (e.g., methadone,

buprenorphine/naloxone, naltrexone). Choice of medication should be made by a qualified professional in consultation with patient, and based on clinical assessment."[135] Yet an analysis of SAMHSA's N-SSATS data from 2016 found that 41.2 percent of SUD treatment facilities reported offering one form of pharmacotherapy for MAT, while 23 percent offered two forms of MAT, and a mere 2.7 percent offered all three forms of MAT.[143] Thus, the limitations on patient or provider choice are stark.

Stepped-Care or Phased Approach. The role and importance of psychosocial supports may vary over the phases of care. As a key informant described, every patient with OUD should receive medication and a standard package of medication management. Then, based on retention and response, the level of psychosocial support services and the structure of the program can be titrated to accommodate the needs of the individual. Informants described the basic treatment initiation process of this stepped-care approach:

1. **Screening and Identification**: Embed screening using DSM-V diagnostic criteria in all aspects of the health care system.

2. **Assessment**: Use a brief assessment process or tool to triage patients and learn about their needs (both medical and recovery supports).

3. **Medication Management**: Start medication based on the clinical assessment, and monitor progress continuously (e.g., dose changes with agonist medications).

4. **Referral**: Refer to other psychosocial services based on the patient's needs.

Table 4-1 describes treatment goals and the role of psychosocial supports for each phase of care, with psychosocial services tailored to each stage. At treatment initiation, psychosocial supports need to be designed to build motivation and momentum to engage in treatment. Once a patient has engaged in treatment, psychosocial interventions should focus on the skills needed to cope with life challenges. Ideally, patients will be regularly monitored over an extended period of time as they stay on MAT, or as they relapse and reconnect to treatment. One key informant emphasized that continuous monitoring is critical, because completing a certain length of treatment does not guarantee success and relapse can occur at any time.

Recovery Supports and Social Determinants. A successful model of psychosocial supports would take a "whole-person" approach that addresses the need for recovery supports. For instance, one key informant stressed the importance of adequate social supports to help patients cope with the challenges they face. Non-clinical services that can help individuals meet their recovery goals include transportation services, supported employment and educational services, supported housing, peer services, spiritual and faith-based support, and parenting education.[144] Ideally, dedicated caseworkers would assist with case management services to facilitate access to recovery support services.

TABLE 4-1. Phase of Treatment Process and Role of Psychosocial Supports	
GOALS FOR THE PHASE OF TREATMENT	**ROLE OF PSYCHOSOCIAL SUPPORTS**
Contact and Initial Engagement	
• Help develop motivation to seek treatment • Connect the person with OUD to the treatment system	• Outreach to people with OUD in the community by peer recovery coaches • Initial contact and motivational interviewing by harm reduction staff, first responder, emergency department staff, or law enforcement • Motivational enhancement to enter treatment • Connection to the treatment systems
Induction and Treatment Initiation	
• Orient to MAT process and effects of specific medications used • Assess for presence of psychiatric comorbidities and suicide risk • Develop a treatment approach well-suited to the needs and situation of the person with OUD • Maintain focus on motivation and treatment engagement	• Patient-centered treatment planning • Evidence-based assessment for psychiatric comorbidities and suicide risk • Medication management and education • Motivational interviewing • Individual and group therapy to support engagement and retention in treatment
Early Patient Engagement with Treatment Process	
• Build motivation to stay in treatment • Develop patient engagement with the treatment process • Orient and educate family and significant others to support treatment • Begin to develop pro-recovery social connections • Begin to develop knowledge of use triggers and relapse-prevention strategies	• Contingency management for retention in MAT • Cognitive behavioral and similar therapies • Appropriate therapies to address comorbid psychiatric issues and suicide risk • Relapse-prevention planning and skill development • Family therapies • Involvement in community-based peer recovery (AA, NA, etc.) • Development of recovery-supportive behaviors and social connections
Relapse Response	
• Develop knowledge of use triggers and relapse-prevention strategies • Educate about how to re-enter treatment if a relapse occurs	• Relapse-prevention planning and skill development • How to respond if relapse occurs--how to re-enter treatment • Outreach to person who has relapsed and motivational interviewing by caseworker or peer recovery coaches
Longer-Term Retention in Treatment and Recovery	
• Aim for retention in treatment and recovery • Continue building mastery of relapse-prevention skills • Consolidate a recovery-supporting lifestyle	• CBT and similar counseling to develop mastery of recovery-supportive behaviors • Continuing therapies to address comorbid psychiatric issues • Individual and group counseling to build recovery skills and supportive social networks • Active participation in peer recovery groups (AA, NA, etc.) • (Re-)Engagement with positive family, vocational, and community networks
Long-Term Recovery	
• Encourage a full and meaningful life with strong social connections	• May or may not include MAT • Includes recovery-supportive behaviors, psychosocial supports, and social networks

Models of Medication-Assisted Treatment Delivery and Support

The literature review and key informant interviews identified several examples of innovative models implemented at the state, regional, or health care system level.[12] These models seek to provide consultation and supports to less-skilled MAT providers and offer an option for triage of patients to specialized SUD treatment programs if they need a higher level of care than is available through the MAT program. Several of these models are being expanded in the field, as states and treatment systems attempt to make MAT more broadly available to address the opioid epidemic.

Hub-and-Spoke Model. One widely recognized model of MAT delivery and support is the Hub-and-Spoke Model developed in Vermont. This model, which offers two levels of care through designated "hubs" and "spokes," focuses largely on buprenorphine treatment, with transfer to methadone for patients with more severe OUD. Regional OTPs serve as the hubs, providing more-intensive care such as methadone treatment if patients do not respond to office-based buprenorphine treatment. Hubs also provide consultative support to the spokes, which are typically office-based buprenorphine providers and community clinics that provide some psychosocial services (e.g., by social workers, counselors, and community health teams). In the spokes, interdisciplinary teams of health and addiction professionals monitor treatment adherence and provide counseling, contingency management, and case management services.[145] Induction occurs in a hub OTP, after which the patient's treatment needs are assessed. More complex patients may stay in hubs while routine cases are referred to spokes for ongoing management and long-term care. Patients may move between hubs and spokes as their needs change. To facilitate care coordination, a registered nurse or clinician case manager serve as a "care connector."[12]

Some key informants highlighted the promise of the Hub-and-Spoke Model, noting that physicians may be more willing to prescribe buprenorphine if they do not have to conduct the intensive induction process, can start with a stabilized patient, and know that intensive support is available through the hubs. Other informants had some concerns with this model. One suggested renaming it the "Hub-and-Spoke Model," because many people prefer and need to receive initial treatment in a primary care setting. Some people, he said, are more likely to successfully seek and engage in treatment in a less-structured setting than in an OTP, with the hub being a more-intensive treatment option if needed. Another informant expressed concern that it is difficult to move patients from hub to spoke without losing some patients in the transition.

Collaborative Opioid Prescribing (Co-OP) Model. This model was developed in Baltimore and has similarities to the Hub-and-Spoke Model. Intake, induction, and stabilization are conducted primarily at an OTP, after which patients move to primary care settings for maintenance therapy. It uses an adaptive, stepped-care model to adjust counseling attendance requirements and medication dispensing based on treatment response indicators.[146] In Step 1, patients who are stable receive a month's supply of medication and must attend as little as one counseling session per month. Step 2 includes weekly prescriptions and intensive outpatient treatment, with at least 9 hours of counseling per week. If patients are struggling, they move to Step 3, with daily dispensing of medication at the OTP rather than by the primary care provider. Finally, patients who refuse to attend counseling transition to Step 4, in which the treatment plan is reassessed and providers consider other medications or settings (e.g., methadone or residential treatment).[147]

In contrast to the Hub-and-Spoke Model, the Co-OP model takes advantage of the expertise and resources at OTPs; these facilities continue to provide psychosocial services, even after primary care physicians become responsible for medication management.[12] While this minimizes the burdens on primary care treatment settings, it may be inconvenient for patients who do not live close to an OTP. Also, one key informant stressed the importance of receiving psychosocial supports in a community-based setting to form real patient-provider relationships.

Opioid Health Home. States may apply for a Medicaid state plan amendment to develop a Medicaid Health Home model to support people with OUDs. Health homes are expected to operate under a "whole-person" philosophy, integrating and coordinating all primary, acute, behavioral health, and long-term services and supports.[148] Opioid Health Homes provide enhanced integration and care coordination for people with OUD and co-occurring mental or medical disorders. Maryland, Rhode Island, and Vermont have state plan amendments approved by the Centers for Medicare & Medicaid Services to implement Opioid Health Homes. The states vary in some aspects of program design, including the definition of health home providers, enrollment processes, team composition, and payment approach.[149] This model emphasizes six core psychosocial services: comprehensive care management, care coordination, health promotion, comprehensive transitional care/follow-up, individual and family support, and community and social support services.[12]

Retrospective analysis suggests that implementation of Opioid Health Homes is feasible and can effectively address the complex needs of individuals with OUD. However, the model's feasibility depends largely on contextual factors, including workforce issues, willingness of providers to accept referrals of individuals with OUD, access to community resources, reimbursement, and ease of use of health information technology to coordinate care.[150] One key informant noted that long-term outcomes and enhanced data collection would strengthen the understanding of the model's impact.

Office-Based Opioid Treatment with Buprenorphine (OBOT-B) Massachusetts Collaborative Care Model. The OBOT-B Massachusetts Collaborative Care Model was developed in 2003 at the Boston Medical Center. By 2007, 14 community health centers in the state had adopted this model to improve access to buprenorphine treatment. After 3 years, the model was financially sustainable and the community health centers had increases in the numbers of waivered physicians and patients treated with buprenorphine. Also, the model demonstrated impressive retention outcomes, with 65 percent of patients remaining in treatment for 1 year or longer.[66]

Within this model, a nurse care manager plays a key role in providing support to patients and physicians. The nurse care manager engages patients early in treatment, supervises medication induction, monitors stabilization, and provides frequent education and supports as needed. The nurse care manager also reviews urine screening results and conducts any necessary follow-up discussion with the prescribing physician or patient. One key informant noted that prescribing physicians appreciate the work that nurse care managers do to manage prescriptions, because it eases their work burden and allows them to treat more patients. The nurse care manager also facilitates connections for patients who need medical care or additional mental health services, such as counseling. One drawback of the OBOT-B Collaborative Care Model is that the availability of psychosocial services varies depending on the community health center and local area.[12]

5. CONCLUSION

Interviews with key informants and an environmental scan of the literature have demonstrated wide variation in the level and type of psychosocial support services offered as part of MAT for OUD. Along with the sharp increase in the need for treatment, MAT services have expanded into a broader range of settings with differing characteristics and requirements, further contributing to the heterogeneity in the psychosocial supports delivered.

The current state of the research in this field is largely inadequate to provide clear guidance on the types of psychosocial services that should be offered. The best available evidence suggests there is a valuable role for psychosocial supports, but the studies and reviews to date do not establish which models of psychosocial treatment are most likely to prove effective in which type of setting or with which populations of people with OUD. Providers of psychosocial supports vary widely in terms of their education and training, and in the orientation, beliefs, and attitudes they bring to their work.

There is no well-articulated standard of care for psychosocial supports in MAT, and providers often rely on locally available resources. Some models that appear to have substantial evidence of effectiveness, such as contingency management or family therapy, are rarely implemented in clinical practice. Reportedly, counselors often include elements of models such as CBT, MET, and others, but these are woven into a framework of general counseling rather than offered in a structured form. Additional, more realistic research on psychosocial interventions is needed to truly evaluate their impact across stages of treatment, population subgroups, clinical settings, and types of medications.

Consistent quality measures are largely lacking, and even basic statistics, such as the duration of retention in treatment, are collected and reported in such differing ways that they are rarely comparable across programs or settings. Also lacking are consistent national data on where and how MAT is provided and the types of psychosocial supports that are incorporated across settings. There are limited data sources on the provision of methadone and buprenorphine products, but little about naltrexone products, and almost nothing about accompanying psychosocial supports. HRSA collects some data on the practices at FQHCs, but it is very limited. SAMHSA's National Substance Abuse Treatment Services survey focuses only on specialty SUD treatment facilities, and is not tailored to provide information about MAT for OUD. It appears that no data collection system routinely collects data on practices in OBOT practices, although Dr. Hannah Knudsen's national survey data sheds some light on practices of buprenorphine prescribers.

The many practical barriers that patients and providers face that hinder the utilization or delivery of psychosocial supports contribute to this variation in practice. In the spirit of all health care being local, strategies have been developed to address many of these barriers, but they differ across primary care settings, community health centers, OTPs, and other SUD specialty treatment facilities, and across the states and communities in which these programs operate. Systemic models like Hub-and-Spoke, Massachusetts Collaborative Care Model, and Project ECHO can help educate providers, disseminate evidence-based approaches, and provide opportunities to triage care for patients with more complex needs. Clearly, models of these sorts are essential if primary care OBOT is to be expanded to meet the population's needs. As Day and Mitcheson conclude, perhaps research should aim to evaluate the treatment system as a whole. A systems approach to this type of

research may be more valuable in informing the impact of individual treatment components in real-world situations.[44]

To truly deliver high-quality treatment for people with OUD, new, more patient-centered systems of care are needed. These systems of care should move away from the common "one size fits all" package of treatment services, toward more flexible whole-person approaches built on principles of shared decision making with patients and families. Psychosocial supports for MAT should be designed to ensure that well-trained providers, including peers, have the necessary skills to address core treatment goals using a variety of strategies appropriate for the patient's needs and preferences.

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OPTIMAL UTILIZATION OF PSYCHOSOCIAL SUPPORT IN MEDICATION-ASSISTED TREATMENT FOR OPIOID USE DISORDER

Reports Available

OPTIMAL UTILIZATION OF PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT FOR OPIOID USE DISORDER ISSUE BRIEF

HTML https://aspe.hhs.gov/basic-report/optimal-utilization-psychosocial-supports-medication-assisted-treatment-opioid-use-disorder-issue-brief

PDF https://aspe.hhs.gov/pdf-report/optimal-utilization-psychosocial-supports-medication-assisted-treatment-opioid-use-disorder-issue-brief

PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT: SITE VISIT FINDINGS AND CONCLUSIONS

HTML https://aspe.hhs.gov/basic-report/psychosocial-supports-medication-assisted-treatment-site-visit-findings-and-conclusions

PDF https://aspe.hhs.gov/pdf-report/psychosocial-supports-medication-assisted-treatment-site-visit-findings-and-conclusions

APPENDIX B. PSYCHOSOCIAL SUPPORTS IN MEDICATION-ASSISTED TREATMENT: RECENT EVIDENCE AND CURRENT PRACTICE

HTML https://aspe.hhs.gov/basic-report/psychosocial-supports-medication-assisted-treatment-recent-evidence-and-current-practice

PDF https://aspe.hhs.gov/pdf-report/psychosocial-supports-medication-assisted-treatment-recent-evidence-and-current-practice