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PERSPECTIVE

The case for a medication first approach to the treatment of opioid use disorder

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ABSTRACT

Background: The opioid addiction and overdose crisis continues to ravage communities across the U.S. Maintenance pharmacotherapy using buprenorphine or methadone is the most effective intervention for Opioid Use Disorder (OUD), yet few have immediate and sustained access to these medications. *Objectives*: To address lack of medication access for people with OUD, the Missouri Department of Mental Health began implementing a Medication First (Med First) treatment approach in its publicly-funded system of comprehensive substance use disorder treatment programs. *Methods*: This Perspective describes the four principles of Med First, which are based on evidence-based guidelines. It draws conceptual comparisons between the Housing First approach to chronic homelessness and the Med First approach to pharmacotherapy for OUD, and compares state certification standards for substance use disorder (SUD) treatment (the traditional approach) to Med First guidelines for OUD treatment. Finally, the Perspective details how Med First principles have been practically implemented. *Results*: Med First principles emphasize timely access to maintenance pharmacotherapy without requiring psychosocial services or discontinuation for any reason other than harm to the client. Early results regarding medication utilization and treatment retention are promising. Feedback from providers has been largely favorable, though clinical- and system-level obstacles to effective OUD treatment remain. *Conclusion*: Like the Housing First model, Medication First is designed to decrease human suffering and activate the strengths and capacities of people in need. It draws on decades of research and facilitates partnerships between psychosocial and medical treatment providers to offer effective and life-saving care to persons with OUD.

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The overdose death crisis: a critical time for effective treatment interventions

Diffusion of illicitly-made fentanyl throughout the East and Midwest of the U.S. has contributed to a steep increase in drug-related mortality (1). In addition to mortality, the burden of untreated opioid use disorder (OUD) includes brain damage from non-fatal overdose, IV-drug related infections, Hepatitis C and HIV acquisition, and social and emotional deterioration. Because of the severity of our overdose and mortality crisis, decision-makers must be vigilant in their focus on increasing access to life-saving interventions.

Medications for OUD (MOUD) can increase treatment retention, reduce illicit drug use, and reduce fatal opioid overdoses by 50–70% (2–4). Three medications are approved by the U.S. Food & Drug Administration (FDA) for OUD: methadone, a full opioid agonist, buprenorphine, a partial opioid agonist, and extended-release naltrexone (XR-naltrexone), an injectable opioid antagonist (5). Methadone treatment often yields the highest retention rates (6,7), but strict federal regulatory requirements on its prescribing (8,9) and low acceptability among treatment providers (10) have limited its adoption, particularly outside of urban areas (11). XR-naltrexone can be as effective at preventing relapse as buprenorphine-naloxone, but only among those who overcome its significant induction hurdle (12). The risk of premature discontinuation is also greater for clients prescribed XR-naltrexone compared to buprenorphine-naloxone (13), while only buprenorphine and methadone have been shown to reduce mortality (14). The agonist properties of methadone and buprenorphine mean they can be initiated quickly after opioid use (15,16), unlike XR-naltrexone.

Buprenorphine, FDA-approved in 2002, allows for greater MOUD access due to its safer profile and less strict regulatory requirements relative to methadone (17) and its greater cost-effectiveness (18) and easier initiation compared to XR-naltrexone (12). However, buprenorphine uptake among prescribing providers has

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been slow (19), owed to numerous barriers including poor reimbursement rates, waiver requirements, and patient limits (20–22). Providers' negative beliefs about the efficacy, safety, clinical demands, and stigma regarding managing patients with OUD also inhibit widespread use (21,23).

Nationally, these and other system-level, provider-level, and client-level barriers have resulted in a lack of providers and care settings providing MOUD (24). This is especially true among traditionally abstinence-based specialty addiction treatment programs, which are often staffed by persons who achieved recovery without medication (10,25,26), and in states with large rural populations such as Missouri (20), which has the lowest ratio of buprenorphine prescribers to overdose deaths in the country (27). Though Missouri has integrated medications into its publicly-funded SUD programs through grant funds (e.g., Advancing Recovery from the Robert Wood Johnson Foundation, which targeted alcohol use disorder (28) and Medication Assisted Treatment-Prescription Drug and Opioid Addiction from the Substance Abuse and Mental Health Services Administration (29)), these efforts were largely based on naltrexone or have been restricted in scope.

In 2016, though there was variability in utilization across programs, analysis of data from the Missouri Department of Health found that only 17% of individuals with OUD in care with Missouri's publicly-funded treatment system received a buprenorphine product, with 78% of this group receiving fewer than five prescriptions. Moreover, even among the Missouri treatment providers who were offering buprenorphine, frequent interaction with Department of Mental Health leaders and SUD program staff and administrators indicates that continued care was often contingent upon clients meeting certain requirements, such as psychosocial treatment compliance and abstinence from illicit substances. These requirements risk premature discontinuation of MOUD, which is associated with relapse and adverse outcomes (30–32). These programmatic policies could be due to a strict interpretation of state Certification Standards. For instance, in Missouri's SUD programs, standards state that clients are to be assigned a 'level of care' involving *up to* fifty hours of psychosocial treatment per week. Though individualized treatment is encouraged, regular drug screening is required, and clients *can be* discharged for a "pattern of noncompliance or poor attendance" or for "frequent relapse incidents" (33). If discharged, clients lose access to all SUD services, including MOUD. In Missouri's Opioid Treatment Programs, "continued unexcused absences from counseling and other support services" *is cause for* involuntary "administrative medical withdrawal" (33).

The lack of consistent uptake of dependable, maintenance MOUD in Missouri made it clear that funds distributed through SAMHSA's two-year State Targeted Response (STR) grant, awarded in 2017, must be used to increase access to maintenance MOUD, with a particular focus on buprenorphine. As these funds were to be used in Missouri's publicly-funded SUD treatment programs, Missouri needed to develop and disseminate a treatment approach that could respond specifically to the unique strengths and challenges inherent in this system. Therefore, specific models with monikers such as "low-threshold" or "low-barrier " access were inadequate (15). Robust psychological services are often not available through primary care or office-based practices, where this terminology is typically applied. As a result, though the terms low-barrier and low-threshold should refer to what is needed for individuals *to enter or stay* in treatment, they are often interpreted (and sometimes correctly so) as unable to offer certain resources to help individuals remain engaged and thrive in their recovery. Moreover, shifting existing terminology surrounding OUD treatment from a 'psychosocial model' to a 'medical model' could have been interpreted as exclusionary by traditional (non-medical) SUD providers. Thus, to effectively catalyze novel messaging, dissemination, and practice changes, Missouri needed to adopt a new framework to conceptualize OUD treatment.

The medication first approach

Through the Missouri Department of Mental Health (DMH), we developed the Medication First (Med First) approach. The principles of Med First are analogous to a successful paradigm with which many of our SUD treatment providers were familiar: the Housing First approach to ending chronic homelessness. Housing First was developed in response to the ineffectiveness of the Housing Readiness model, which required individuals to demonstrate "readiness" (e.g., motivation and compliance) to obtain and retain housing. Violating program requirements in the Housing Readiness approach often led to eviction and further episodes of homelessness. In contrast, Housing First programs promote a low-threshold model, providing secure housing as quickly as possible and engaging clients in *voluntary* adjunct services. Housing is not contingent upon clients demonstrating readiness or "earning" their housing through completion of program requirements. Studies comparing the two housing approaches have demonstrated superior outcomes in

Housing First models compared to readiness models (34,35).

The Housing Readiness model is analogous to the intensive psychosocial, abstinence-based treatment models for SUD utilized in much of Missouri's comprehensive treatment system. Likewise, many similarities exist between Housing First and Med First, primarily based on the tenets of: 1) rapid access; 2) stability/perpetual access; 3) consumer choice in service participation; and 4) lack of punitive structure or ongoing requirements.

Thus, beginning in the Fall of 2017, through dissemination of a statewide 'Implementation Guide,' targeted training efforts, and access to STR funds, DMH began disseminating the Med First framework according to the following four key principles:

(1) *Clients receive pharmacotherapy as quickly as possible, prior to lengthy assessments or treatment planning sessions;*
(2) *Maintenance pharmacotherapy is delivered without arbitrary tapering or time limits;*
(3) *Individualized psychosocial services are offered but not required as a condition of pharmacotherapy;*
(4) *Pharmacotherapy is discontinued only if it appears to be worsening the client's condition.*

In both Housing First and Med First approaches, the lack of mandatory prerequisites provides individuals rapid access to what they need *first* (i.e., housing or stabilizing medications). Because of the emphasis on rapid access to medications, the Med First approach prioritizes buprenorphine and methadone (though extended-release naltrexone may be appropriate for individuals who wish to transition off an agonist after achieving stability (36), or those who present to treatment already detoxified from opioids and have a strong preference for naltrexone. In the latter cases, providers should offer brief education about the smaller evidence base for naltrexone (12–14)). Like the Housing First approach, Med First provides long-term security of a crucial, stabilizing resource – MOUD – without conditioning the receipt of MOUD on other service requirements or abstinence. Instead, both approaches prioritize consumer choice, recognizing that self-determination makes services more efficient and effective (37).

Medication *First* implies individuals with OUD can include the wrap-around, psychosocial services in which SUD programs specialize as their second and continued steps in their individualized long-term maintenance treatment. Therefore, Med First does not mean 'Medication Only' (38) unless a client is unwilling or unable to participate in adjunctive services. In these instances, medication should be continued and engagement in individualized non-medical services should be assertively encouraged. Stabilization with medications positions clients to take advantage of a full menu of tailored services including individual and family therapy, trauma treatment, vocational training, and peer recovery coaching. Principle #3 (psychosocial services are offered but not required) is also consistent with research showing that even among more complex clients (e.g., living with HIV, pregnant, under criminal justice supervision) the evidence is mixed as to the added benefit of psychosocial services during buprenorphine treatment (7,39). Though a combination of medical and psychosocial services is ideal for many individuals with OUD, a requirement for the latter should never prohibit the former. Indeed, the voluntary nature of psychosocial services is perhaps the most critical underpinning of the Med First philosophy and serves as a contrast to many traditional treatment approaches.

Finally, in the Housing First approach, housing is not used as reinforcement or punishment with the goal of motivating service engagement or compliance. Similarly, through Medication First, a taper or discontinuation of medication should not be used to motivate client compliance, nor as punishment for a client infraction (e.g., illicit drug use, missed appointments, medication diversion). As should be expected when managing any chronic condition, some clients will return to opioid or other illicit drug use. Medication should only be discontinued if the costs (e.g. side-effects, interactions) outweigh the benefits (e.g. improvement in functioning, reduced risk of death). In fact, recent evidence (40) and a Food and Drug Administration advisory (41) underscore the importance of maintaining MOUD even in the presence of concurrent substance use. Indeed, the model deemphasizes the achievement of abstinence and instead measures progress functionally (improvements in health, lifestyle, relationships, etc.). This de-emphasis of abstinence is consistent with harm reduction philosophies and, more specifically, Marlatt's Harm Reduction Therapy for substance use. Harm Reduction Therapy was developed with a public health lens to "meet people where they are at" and deploy pragmatic strategies to keep people alive and help reduce suffering, whether or not complete abstinence is achieved or even aspired for (42).

Apart from core structural similarities, Housing First and Med First approaches share a deeper, strengths-focused philosophical assumption: addressing peoples' primary needs facilitates increased motivation and self-

efficacy, activating their knowledge, strengths, and skills to address their other needs and priorities. Just as Housing First advocates have described housing as a human right (43,44), providing medication to relieve suffering from OUD should be ubiquitous across care settings (see a recent federal ruling requiring jails and prisons to provide MOUD (45)). In contrast, readiness models that use housing or medical treatment as positive or negative reinforcement promote emotional insecurity, decrease motivation and self-efficacy (46), and, it can be argued, violate human rights.

Table 1 compares the Missouri state certification standards for outpatient treatment programs (33), which inform the traditional addiction treatment approach in Missouri, to Med First guidelines for OUD treatment. These two approaches are shown according to how they align (or do not align) with each of the four principles of Med First.

Medication first in practice

Missouri STR treatment funds are available exclusively to state-contracted and certified specialty SUD programs, of which there are 25 agencies with 190 operating sites. In 2016, approximately 6,500 uninsured individuals with OUD were served by these agencies. All offer outpatient treatment and a subset also offer residential programs. Only three agencies are Opioid Treatment Programs with the ability to prescribe methadone. To receive STR treatment funds, programs with demonstrated capacity and willingness to deliver treatment consistent with Med First principles must

Table 1. Medication first principles and guidelines compared to missouri state certification standards for substance use disorder treatment programs (traditional approach).

Medication First Principle	Medication First Guideline for Medications for Opioid Use Disorder (MOUD)	Missouri Certification Standard for Substance Use Disorder Treatment(traditional approach)
1. Clients receive pharmacotherapy as quickly as possible…	Agencies demonstrate a capacity (buprenorphine-waivered providers/be an OTP) to *initiate* agonist medications (6,15) "as rapidly as possible to prevent undue opioid withdrawal symptoms" (47). Same-day MOUD access through coordination with prescribing providers is encouraged and administratively facilitated. Clients who have previously voluntarily discontinued treatment are offered rapid access to treatment upon re-engagement.	Non-medical (social) detoxification is an acceptable option (33) despite evidence medical detoxification being the standard of care for opioid withdrawal (47,48). Delay to medical detoxification services can be greater than delay to outpatient medical treatment due to a limited capacity of detoxification settings.
…prior to lengthy assessments or treatment planning sessions	Agencies are encouraged to modify administrative processes so medically-necessary screenings are completed as soon as possible, with comprehensive assessment and treatment plans completed after MOUD is initiated.	Treatment requires a comprehensive assessment (to determine level of care) and treatment plan are completed, with the exception of detoxification (33). Such requirements lead to administrative delays in scheduling medical visits, if they occur at all.
2. Maintenance pharmacotherapy is delivered…	Agencies demonstrate a capacity (coordination plan with prescribing providers) to provide *maintenance* MOUD including any of the 3 FDA-approved medications (5,6,12,15,49).	Certification standards were originally written before the FDA approval of buprenorphine or XR-naltrexone so their role in treatment is not addressed. Therefore, access to *maintenance* pharmacotherapy is not assumed. Standards only require that programs facilitate access to detoxification, while OTP standards emphasize medically supervised *withdrawal* (33).
…without arbitrary tapering or time limits	Providers regularly assess medication dosing to ensure maintenance MOUD is prescribed at therapeutic levels (30,31,50) for as long as it is beneficial for the client, which may be indefinitely.	Due to lack of certification standards for maintenance MOUD, there was no relevant DMH guidance prior to Med First.
3. Individualized psychosocial services are offered but not required…	Providers deliver or refer to psychosocial support services such as counseling, psychiatry, peer coaching, primary care, housing, and transportation on a voluntary basis and depending on clients' individual needs (39,47).	Clinical therapy, SUD education, development of positive peer support, and ongoing treatment and rehabilitation are de facto required because clients can be administratively discharged if they fail to demonstrate commitment to these services or for a pattern of poor attendance at these services (33).
…as a condition of pharmacotherapy	Providers continue providing MOUD even if clients are unwilling or unable to engage in psychosocial services, as significant benefit is derived from MOUD alone (39,51).	The implications of discharging clients from treatment who are on buprenorphine or XR-naltrexone are not addressed in the certification standards. OTP clients who have "continued unexcused absences from counseling and other support services" may undergo administrative medical withdrawal at the direction of the treatment provider (33).
4. Pharmacotherapy is discontinued only if it appears to be worsening the client's condition	Concerns about lack of participation in services, relapse, or other illicit substance use are addressed not by MOUD discontinuation or dose decreases (41) but with increased frequency of visits, observed dosing, and other accountability measures, as well as peer support to increase engagement (52,53).	In addition to absence from counseling, clients can be discharged prior to successful completion of treatment if "no further progress is imminent or likely to occur," for a "pattern of noncompliance," or "frequent relapse incidents." (33). Illicit substance use (including benzodiazepine use) is sometimes used as a reason for discontinuing MOUD despite FDA recommendations to avoid this (41).

complete a site visit and attend implementation training. To facilitate adherence, they are required to develop competence in the medical management of OUD by training staff, restructuring clinical protocols, and partnering with medical providers in their communities.

To facilitate the transition from an acute care to a chronic care model, technical assistance from clinical experts and an Implementation Guide are available. However, because Med First is not a protocolized treatment model but rather a portable treatment *philosophy* that can be applied across settings, including addiction treatment, primary care, opioid treatment programs (to the extent federal regulations allow), and office-based clinics, the implementation guide does not contain hard and fast rules specifying required dosing, frequencies of visits, drug tests, counseling sessions, etc. That said, we do make evidence-based recommendations for how to individualize services while adhering to clinically appropriate standards (e.g., provide weekly medical visits during stabilization, regularly assess medication dosing by monitoring cravings). Additionally, to disincentivize overutilization of certain non-medical services that lack the robust empirical basis of MOUD (54–56), STR does not reimburse group services, social (non-medical) detoxification, or residential treatment. Though these services may at times be clinically indicated, in general they are not preferred over outpatient, medically-focused treatment for OUD, and the decision was made to extend the reach of the STR funds by limiting their utilization. (Note, providers may still provide these services for clients enrolled in STR, but must pay for them out of their general state allocation. This leads to them being utilized more sparingly.) When providers are concerned about clients who are using other substances or are inconsistently engaged in treatment, we encourage them to utilize peer recovery coaching (52,53) and increase accountability measures such as more frequent visits and observed dosing – not discharge a client discharge or otherwise reduce their medications. During two regional provider "Listening Sessions" held to better understand genuine barriers and facilitators of Med First implementation (attended by 75 treatment program representatives from 18 agencies across Missouri), the changes associated with shifting to this approach were said to involve "growing pains." Indeed, some providers noted Med First was helping them retain more clients, but some of those clients continued to use drugs or otherwise struggle with treatment adherence, resulting in them treating a "sicker population" overall, which was proving hard on clinical staff. In general, however, SUD providers spoke positively about the benefits of the new framework, most notably the expedited access to MOUD and observed clinical improvements in their client populations. Providers voiced interest in further expanding application of Med First principles within their agencies.

Initial utilization data from the first nine months of implementation are promising. Compared to clients at the same agencies prior to Med First implementation (pre-STR funds), clients treated through the Med First approach are more likely to receive medication for OUD (44.8% pre-STR vs. 85.3% in STR), be connected to that medication sooner (median of 8 days pre-STR vs. same-day in STR), and be retained in care at one month (49.0% pre-STR vs. 68.6% in STR), three months (27.3% pre-STR vs. 46.9% in STR), and six months (14.2% pre-STR vs. 32.9% in STR). (A detailed description of our implementation and evaluation results is currently under review.) Though these outcomes are short-term in the context of the chronic nature of OUD, they are robust and promising, nonetheless.

Though the Med First framework was developed and promoted through STR, State leaders have broadly promoted it across the SUD system of care and have expressed expectations of similar results outside STR programming. As such, while STR and other additional SAMHSA opioid treatment funds may cease within the next five years, the intention of DMH is that Med First will continue to be the dominant treatment approach for OUD within the publicly-funded system. This will require some modifications to certain reimbursement policies and certification standards, among other components, that are within the purview of DMH.

Conclusion

Medication First draws on decades of research, leverages existing systems of care, incorporates evidence-based treatments, and facilitates partnerships between psychosocial and medical providers to offer effective services to persons with OUD in a system of care that traditionally eschewed MOUD. The approach does not address all potential barriers to treatment receipt and effectiveness, including many structural barriers, lack of perceived need for treatment (57,58), or stigma toward people with addictions (59), nor does it address funding or payment barriers that must be reduced for comprehensive and sustainable system change. Instead, through defining and disseminating four basic principles based on the familiar and effective Housing First approach, Medication First focuses on system reframing and the communication of core concepts to increase the provision of rapid and sustained

access to MOUD, the most critical method for keeping people alive and engaged in care.

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