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# OVERCOMING BARRIERS TO ADOPTING AND IMPLEMENTING PHARMACOTHERAPY: THE MEDICATION RESEARCH PARTNERSHIP

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## Abstract

Pharmacotherapy includes a growing number of clinically effective medications for substance use disorder, yet there are significant barriers to its adoption and implementation in routine clinical practice. The Medication Research Partnership (MRP) was a successful effort to promote adoption of pharmacotherapy for opioid and alcohol use disorders in nine substance abuse treatment centers and a commercial health plan. This qualitative analysis of interviews ($n = 39$) conducted with change leaders at baseline and at the end/beginning of 6-month change cycles explains how treatment centers overcame obstacles to the adoption, implementation and sustainability of pharmacotherapy. Results show that barriers to adopting, implementing and sustaining pharmacotherapy can be overcome through incremental testing of organizational change strategies, accompanied by expert coaching and a learning community of like-minded professionals. The

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greatest challenges lie in overcoming abstinence-only philosophies, establishing a business case for pharmacotherapy, and working with payers and pharmaceutical representatives.

**Keywords**

Pharmacotherapy; medication-assisted treatment; substance use disorder; alcohol use disorder; quality improvement

## Introduction

A growing number of medications could transform addiction treatment similar to the effect of selective serotonin reuptake inhibitors (SSRIs) on treatment for depression and anxiety disorders. Buprenorphine, naltrexone, and extended-release naltrexone (XR-NTX, Vivitrol®) are clinically effective when combined with evidence-based counseling and patient education interventions.[1] Studies, however, also catalogue the internal and external barriers to adopting and implementing pharmacotherapy in routine clinical practice (e.g., staff resistance, insufficient program infrastructure, lack of knowledge about medications, and complex ordering and reimbursement systems).[2–5] This paper details not only the internal and external barriers treatment centers in the Medication Research Partnership (MRP) encountered in increasing use of pharmacotherapy, but also the strategies for developing strong internal and external supports to overcome these barriers. The MRP, a collaborative initiative which included a commercial health insurance company and participating treatment centers, focused on improving access to medications for individuals with opioid and alcohol use disorders.

An earlier initiative, Advancing Recovery forged quality-improvement partnerships between state substance abuse agencies and treatment centers to address implementation barriers associated with medication and psychosocial services. Twelve state/county agencies responsible for alcohol and drug treatment led the implementation of evidence-based treatments with participating addiction treatment centers. Most sites achieved a measurable increase in the numbers of patients served with evidence-based practices, up from a baseline of virtually no use.[6] Advancing Recovery worked within the public sector where the payer structure and the payer-provider relationship is typically less complex and more stable than in commercial health plans.[6] In the private sector, addiction treatment centers are typically reimbursed by multiple health plans with an ever-changing structure of contracts, formularies and payment rules. Bureaucratic churning and complexity characterize private payment and reimbursement systems.[2] Advancing Recovery used the Network for the Improvement of Addictions Treatment (NIATx) model for process improvement to promote the use of medication in publicly funded treatment centers.[6–10] NIATx used simple strategies to pilot rapid changes to improve the quality of addiction treatment.[11] Participants created “change teams” to rapidly test and monitor the effectiveness of small organizational changes that promoted the use of adjunct pharmacotherapy. Once found effective, changes were scaled up and adopted across the organization.[7,8,12,13]

The MRP tailored the NIATx and Advancing Recovery models to addiction treatment centers contracting with a large commercial health plan and promoted adoption of

pharmacotherapy for alcohol and opioid use disorders in nine substance abuse treatment centers in Delaware, Maryland, and Pennsylvania. Treatment programs who declined the invitation to participate in the Partnership served as a non-intervention comparison group and controlled for cyclical change in the industry. A quantitative analysis documented an overall increase in the number of prescriptions filled for alcohol and opioid use disorders for patients in MRP sites relative to the non-intervention comparison group.[14] MRP clinics experienced a 2.4-fold increase in patients with prescriptions for medication-management of alcohol or opioid use disorders (13.2% at baseline to 31.7% at three years post MRP initiation). MRP sites also increased the number of patients with prescriptions to treat opioid use disorder from 17.0% (baseline) to 36.8% (three years post initiation), with smaller changes observed in comparison sites (23.2% to 24.0%) and a three-year post initiation adjusted difference-in-differences of 19% (95% C.I. = 8.5% – 29.5%, p = 0.000). Medications for alcohol use disorders increased in both MRP (9.0% to 26.5%) and comparison sites (11.4% to 23.1%).

Internal factors that contributed to increased medication use varied across sites. Overall, internal changes implemented focused on improving clinical communication, training staff on medications and how to talk with patients about medication options, changing workflow to reduce patient wait time to first dose, educating patients and their families about medications, and changing medical directors. External factors focused on strengthening partnerships and improving patient handoffs back into the community. Communication with pharmaceutical representatives, linkages to care, and payer expectations to use medications provided the external environment necessary to support internal changes.[2,14]

This paper reports findings from a process evaluation that addressed how the gains were achieved through the development of internal and external supports. Qualitative data over the MRP's duration were collected from all parties engaged in this effort to better understand the barriers to and needed supports for adopting and implementing pharmacotherapy in private sector addiction treatment.

## Methods

### The Medication Research Partnership

The MRP focused on improving access to medications for individuals in treatment for opioid and alcohol use disorders. Each of nine treatment centers designated a "change leader," either an administrator or clinician to spearhead its effort, along with a two to five member "change team" representing multiple sectors of the facility including admissions, nursing, counseling, psychiatry, and management. Each center was assigned an expert coach in implementation science who assisted change teams through monthly calls and a site visit. Change leaders were coached to focus on one small change at a time, to track data on the change, to communicate change data regularly to staff, and to include all levels of staff in the change team and in communication about change progress or failure. The heart of change team efforts was the Plan-Do-Study-Act (PDSA) rapid cycle testing of strategies to promote use of medications.[15, 16] Teams first developed and tested one change strategy confined to a small portion of the organization. Through data monitoring and staff and patient feedback,

change teams could determine effectiveness, allowing leadership to decide either to scale up adoption, to modify, or to abandon the change strategy.[17]

The MRP included three six-month change cycles, and an 18-month sustainability phase to lock in successful strategies organization-wide. Throughout, the MRP provided a wide range of supports to the nine treatment centers in developing change strategies, overcoming barriers to implementation, and building relationships outside of the organization to support pharmacotherapy. Along with monthly coaching, "Learning sessions" brought all nine change teams and the commercial health plan together to share successful and unsuccessful promotion strategies. Learning sessions were held every seven months before/after each change cycle, plus a final learning session near the end of the observation period. Additional technical assistance was provided through periodic webinars, trainings, and other supports from the health plan. Coaches also focused on making the business case for change through understanding the process cost (e.g., staff time and materials) associated with medication administration and the revenue impact associated with increased admissions and retention in treatment.

## Data collection

The MRP process evaluation used qualitative methods to track efforts in all nine treatment centers and the health plan. Semi-structured interviews ($n=39$) conducted with change leaders at baseline and within two months of the end of each six-month change cycle captured decision-making around adapting, adopting, and abandoning each change strategy, and plans for the next change cycle. Interviews conducted after completion of the MRP addressed how changes were being sustained. Interview schedules maintained comparability across sites and were conducted in a conversational manner to maximize opportunities for change leaders to describe goals and experiences in their own words. Interviews were digitally recorded and professionally transcribed. Other qualitative data sources included field notes taken during coaching sessions ($n=67$), site visits ($n=9$), and learning sessions ($n=4$).

## Analysis

Qualitative analysis focused on the method of constant comparison to explore similarities and differences across sites.[18] Analysis and data collection were conducted on an on-going basis to allow up-to-date adaptations to interview guides. Goals were to capture (1) strategies for integrating pharmacotherapy into behavioral treatment, (2) internal and external challenges and barriers to organizational change, and (3) preconditions for sustaining change. Four research team members coded interview transcripts using the qualitative software Atlas-ti 7.0. Research team members did not code interviews they had conducted themselves to minimize any researcher biases or assumptions.

The research team developed a common coding scheme to facilitate cross-site analysis. Codes were designed to flag material related to the study's research questions as well as themes independently introduced by interviewees. The coding structure remained flexible, allowing the inclusion of new codes and analytic themes, and the dismissal of any that had reached analytic saturation. Through iterations of coding, memo writing, and telephone

meetings, the team developed hypotheses about key themes in the data and then returned to the data looking for their confirmation, modification, or refutation.

## Results

Treatment centers confronted three sequential phases in adopting, implementing, and sustaining pharmacotherapy.[19] At each stage, the MRP team adjusted its approach and tools offered to help treatment centers overcome barriers to change. Timing varied across sites depending on the magnitude of the barriers each faced and the effectiveness of change teams and MRP coaches in overcoming them.

### The decision to adopt pharmacotherapy

In deciding to adopt pharmacotherapies, change teams faced the perceived incompatibilities between the use of medication and clinicians' existing values and past experiences. Treatment centers with strong medical leadership moved more quickly through this stage. Almost uniformly, these clinicians largely held a "pro-medication" treatment philosophy—usually those who had prior positive experiences prescribing medications for treatment, and who championed the positive outcomes that medication, along with social-behavioral treatment, could yield. This stage also went more smoothly in centers that approached the MRP with supportive leadership and had the operational capacity to deliver medications.

When clinician attitudes were rooted in abstinence-only philosophies, and prior experience with methadone and disulfiram, change was slower. Polarizing debates occurred between change leaders and clinicians who assumed that being "pro-medication" necessitated being "anti-behavioral therapy." Some clinicians feared that adopting medications was tantamount to dismissing behavioral therapy as ineffective. For these clinicians, methadone clinics seemed to provide a cautionary tale:

> [The doctor] would just say, take the medication. That's all you need. Not go to 12 Step meetings, not go to church, not go see a therapist, not engage in some type of positive program…And I think what they don't want to do is create what we already have, which is the stigma of methadone maintenance.

Change leaders also noted fears of repeating a "common" discourse with patients who asked for medications:

> [The client] doesn't want to do [behavioral therapy]. And all he wants is [buprenorphine]. And that's just like, 'just give me the antidepressant. Give me a pill that will make it go away. And I don't want to learn the behaviors to make the changes I need to make.'

Some change leaders reported views that buprenorphine was the "new methadone," fearing diversion and the potential that their centers could become "drug mills:"

> I think people saw [methadone] as a way for everybody to just function…I don't think [methadone or buprenorphine] work well when we give you the meds, and then you go out on the street and you sell them, or you're using anyway and still

> getting high, because we've not changed your behavior and your attitude about sobriety.

The MRP developed a toolkit of strategies to help move centers more quickly through the decision to adopt. Central to this was formally educating clinicians about how medications worked and that some forms of these medications were virtually immune to diversion. The MRP's learning sessions and webinars helped clinicians overcome these concerns so that within six months, staff were no longer expressing concerns about diversion to the lead team. Indeed, providers sometimes turned to moral arguments about withholding effective forms of care. Concerns sometimes remained, however, about discharging medicated patients into abstinence-only halfway houses.

Key to success in adoption was inclusiveness that allowed all center staff a voice. As one change leader put it,

> The first thing that had to happen with the [Quality Improvement] meetings was the staff had to start to begin to believe that we just weren't implementing stuff and that they were part of the process.

Incrementalism was another key to success. When one center struggled to overcome philosophical barriers to adding medication to recovery plans, change teams reported that "half the staff was on board and half the staff wasn't." At this point, the center transitioned to referring patients to outside providers while managing their doses in-house. Direct experience with managing patients on medication increased so that after six months, the center's change leader could say:

> The staff has definitely accepted [buprenorphine] as part of the culture here. It's part of who we are and what we are, and that it's mentioned, it's talked about…it's not a discussion that we have in staff. It's just accepted they're on [buprenorphine] and we treat those clients much like if they have specific issues that are specific to treatment, much like if there's an opioid addict, that's important to us, if they're male that's important to us, if they're female, if they're a minority, if they're on [buprenorphine], then all those factors are part of that makeup…it's part of who they are and what they are.

Finally, a major theme throughout the MRP was uncertainty about the economic costs of medications: "If the insurance doesn't pay, ninety-five percent of the people or more are not interested in obtaining medicated assisted treatment." Even in centers with leadership who believed that pharmacotherapy would be cost-effective, uncertainty remained about getting accurate cost information, coverage by contracting health plans, and the mechanics of reimbursement across multiple health plans, which was complex and difficult to predict:

> It's like a formulary. Well, there's two things. Some insurance companies pay for [XR-NTX]…under their medical benefit. Some pay it under the pharmacy benefit. Some pay a little bit under medical and a little under pharmacy. So the setup of it is a barrier at times because it's so convoluted who's paying for what and who you're supposed to talk to, you know, covered, etc.

The MRP responded by coaching change teams on how to make the "business case" for the use of medication, focusing on reductions in costly readmissions and emergency room visits. For some centers, this proved highly effective. In response to the business case, one change leader concluded, "I feel—again just a forecast guess—that people will struggle to remain in business if they don't embrace [medications]."

### From the decision to adopt to implementation

Once treatment centers had decided to offer pharmacotherapy, they faced many complexities in providing this service in a clinically safe, cost-effective manner. Sites were new to the complex ordering, reimbursement, and pre-authorization processes, particularly because multiple payers with different formularies were involved; centers felt "at the mercy of the insurance company." Storage and mixing procedures were complex for some medications. Residential programs struggled to find linkages to outpatient services where patients could continue medications.

The MRP responded to these many barriers by breaking down the implementation process into small, feasible steps. This was inherent in the Plan-Do-Study-Act (PDSA) cycle, which encouraged sites to test single, manageable changes, and reframed expectations for the speed and demands of change. As one center's team leader described it:

> Okay, now the real work begins…So it's part of a development. And it will be ongoing working documents where we develop it, and critique it, and change it, and manipulate it so that the whole process is engaging. And then allowing the client who's not ready to say, okay, that's fine. Right now you're just getting your feet wet. You're waking up, and that's fine. No sweat.

Coaches provided centers a menu of change options ranging from making patient referrals to outside providers, to learning how to induct and maintain patients on medications. This resulted in a wide variety of change projects across the nine treatment centers that ranged from building referral networks, to streamlining intake processes, improving hand-offs, formalizing protocols for determining eligibility, and monitoring physician prescribing. In many cases, the simpler changes proved most impactful:

> Just going to another building, another program across the street is scary. And we've even talked about, why don't you walk them over? So they can see where they're going, and what door to use and that…you know, it takes ten minutes out of your day and it's well worth our time.

Interviews with change leaders revealed that pharmaceutical representatives proved to be an unanticipated external resource in overcoming barriers to implementation. One leader found that pharmaceutical representatives could strengthen linkages to physicians in the surrounding community to support discharged patients:

> We worked very closely with our [pharmaceutical] rep. We really looked at getting referrals for aftercare at facilities where there was actually a program not just a [pill] mill…that we wanted people to get quality treatment afterwards. So we worked with our [XR-NTX] rep, who worked with other [XR-NTX] reps in their areas.

A change leader at a different center explained the benefits of pharmaceutical representatives for clinician training:

> As a result of the [change] project, people were able to delegate certain things, you know, to me as the team leader, just to kind of keep it in focus, in addition to working with the pharmaceutical company to provide ongoing training. So instead of having a once a year visit with [the pharmaceutical representative], what I know has happened over the past six months is [the pharmaceutical representative] has been here at two or three times.

An additional outside resource was the commercial health plan participating in the MRP which sent representatives to learning sessions, provided webinars about its pharmaceutical coverage benefits, and system of medication preauthorization.

Throughout implementation, the MRP lead team emphasized the use of data and patient feedback to evaluate the success of incremental changes, often providing the unexpected benefits of making the case for the value of pharmacotherapies:

> I really started to show [the change team and other staff] the opioid dropout rate that we were having. And I would review the discharge for the entire facility and show the differences, you know, break it down by counselor…I went over the numbers for the discharge and showed them the stats…I think they were real pleased with themselves, you know, the positive changes. I mean, it was dramatic. I was very impressed.

### Routinizing medication use for long-term sustainability

Once internal and external barriers to implementation had been overcome, treatment centers faced the risks of reverting back to the old, familiar patterns, as well as the challenges of adapting to changes in the environment that would demand modifications in procedures. Conflicting philosophies, staff turn-over, inadequate staffing, poor adherence to medication protocols, and the external environment—changes in payer and government policies—were the key barriers observed at this stage.

The MRP approach gave treatment centers and their change teams control with strong “ownership” of the MAT processes put in place. If further adaptations were needed over time, centers were empowered and prepared to continuously adapt to future needs. Designation of a “change leader” within the organization created an accountable person responsible for the team’s success or failure:

> I think once we started with the Partnership, I think it was pretty much we were committed to getting this going. And we kind of used it as a vessel to keep us motivated. The point to where like it actually had to fall under somebody’s umbrella directly. You know what I mean? To me, that shows sustainability.

Routinization called for weaving medication protocols into the fabric of day-to-day clinical care. Centers made clinicians accountable for directly referring patients to pharmacotherapy without spending critical time on obtaining approval by supervisors and directors. By increasing treatment continuity, patients were less likely to withdraw from care or fail to

show at follow-up appointments. For some, devolving decision-making on use of medication to clinicians and patients had the unexpected benefit of improving the provider and patient experience:

> I think with accountability comes sustainability. The staff loves it. The patient feedback is phenomenal. The simplicity of how to get somebody in makes it like easy for the clinicians just to make direct referrals. Like in the pilot program, they would have to tell me who the patient was. Now they can just make direct referrals.

## Discussion

The MRP sought to accelerate the adoption of pharmacotherapy for alcohol and opioid use disorders in private-sector substance abuse treatment. It brought together a group of treatment centers and external partners operating in the same market as a "learning community" to collaboratively problem-solve around barriers to the use of medication. Through incrementalism, using Plan-Do-Study-Act cycles, and coaching, change teams within treatment centers developed internal and external supports needed to sustain MAT over time. Most importantly, patients in comparison programs that did not participate in the Partnership were less likely to receive medications to support recovery from alcohol and drug use disorders at the end of the three-year observation period.

Credible evidence that MAT was beneficial to their clients fueled strong internal support among some treatment centers and underlined the importance of making data-driven decisions and using data to inform change team members about the impact of the intervention.[6,20,21] Development and use of measurement and feedback systems are integral components of organizational change. During implementation, these systems aggregated and reported clinical data over time.[22–24] Regular staff updates about data feedback from medication implementation can motivate staff to sustain their efforts because it communicates consistent messaging about the benefits of medication for clients and families.[25–28] Further, data reports may allow staff to make internal and external comparisons. Data-driven organizations using feedback reports and communicating outcomes to staff are more likely to be successful in their efforts to improve.[20] The findings support the use of audit and feedback reports to drive behavioral and organizational change.[29–31]

While internal supports were strong among treatment centers, efforts to implement and sustain the use of medication to support recovery must also address external barriers. External supports proved key to successful changes within treatment centers, a finding consistent with frameworks that suggest internal and external attributes influence the implementation and sustainability of organizational change.[32,33] This included commercial health care payers willing to streamline and train providers on reimbursement procedures, treatment centers seeking support from pharmaceutical representatives willing to train clinicians and promote referral networks, and community-based primary care physicians willing to serve as referral destinations for patients maintained on pharmacotherapy following care. When implementing organizational change, the providers' strategic plan

must address and understand how external partners and regulatory changes influence success.[34,35]

The MRP prepared centers for success by designating accountable change leaders, routinizing medication protocols throughout clinical care regimes, and providing the framework to strengthen external supports. This alignment of supports inside treatment centers with supports outside their walls was an essential task of sustaining medication use.[36]

A fundamental challenge with adopting any innovation is increased organizational uncertainty.[19] The MRP reduced uncertainty by introducing small changes on a limited pilot basis in ways that reduced the strains on staff time and organizational resources, while increasing external supports, resulting in lowered perceived risk of making pharmacotherapies available to patients. The findings suggest that strategies for overcoming barriers to use of medication are likely to be most successful when they break down stages of adoption and implementation into smaller, manageable pieces, curate strong internal support through data reporting and sharing, and develop external support from health care plans and through linkages with pharmaceutical companies and community-based physicians. This allows treatment centers to overcome internal and external challenges through less risky trial and error, gradually building confidence in their efforts, experimenting with needed adjustments, all with the attitude that organizational change is more of a process than an event.

Patient access to medications to support recovery is improving. Data from the National Survey of Substance Abuse Treatment Services document increases in the number of programs making pharmacotherapy available to patients and increases in the number of patients using medication.[37] Programs, counselors, and patients apparently see more stable recoveries and less craving. Generally, however, the percent of patients who receive medication remains limited.[38]

## Limitations

Study sites were limited in number with their geographic concentration in Maryland, Delaware, and Pennsylvania. Moreover, the study was confined to building partnerships with one major commercial health plan even though addiction treatment centers engage with multiple plans. Interviews were limited to change leaders; other staff may have had different perceptions of barriers and facilitators. The claims data used in the analysis did not include direct measures of patient outcomes. It is unknown if patient outcomes improved. Analysis of data on hospitalizations during the study period were inclusive because of large statistical variation in the data.

Some of the treatment programs developed relationships with pharmaceutical representatives from Alkermes (manufacturer of extended-release naltrexone). The representatives provided staff training on the medication and the ordering and administration of the medication and helped with linking patients to community prescribers for subsequent injections. Programs valued this assistance because the medication was new to them and there are complexities in ordering and administration of the medication[2]. The evaluation noted which treatment

programs reported using the services to facilitate use of the medication and noted the reported benefits. The services are a resource available to any community-based addiction treatment service and were not provided as part of the MRP. Programs that do not develop relationships with pharmaceutical representatives may be less likely to initiate use of new medications.

## Implications for Behavioral Health

The MRP helped substance abuse treatment centers accelerate adoption and implementation of evidence-based medications for recovery. Along the way, centers developed new capacities for strategically realigning themselves with a private-sector health care environment in which they will be playing an increasingly integrated role. With health reform, substance abuse treatment is becoming more integrated with medical care, thus laying fertile ground for the diffusion of pharmacotherapy to promote recovery. Strategies such as the MRP that support treatment centers in this integration process may benefit from the stability of private-sector treatment systems while providing patients with new options for recovery.

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