Reducing Readmissions in an MOUD Setting: A Literature Review

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Foreword

The Connecticut Behavioral Health Partnership (CT BHP) is a partnership among the Department of Social Services (DSS), the Department of Children and Families (DCF), and the Department of Mental Health and Addiction Services (DMHAS). Beacon Health Options (Beacon) Connecticut continues to serve as the behavioral health Administrative Services Organization (ASO) for the CT BHP and manages behavioral health care for over 975,000 Medicaid/HUSKY members. Beacon's role is to serve as the primary vehicle for organizing and integrating clinical management processes across the payer streams, supporting access to community services, promoting practice improvement, assuring the delivery of quality services, and preventing unnecessary institutional care. Additionally, Beacon is expected to enhance communication and collaboration within the behavioral health delivery system, assess network adequacy on an ongoing basis, improve the overall delivery system, and provide integrated services supporting health and recovery by working with the Departments to recruit and retain both traditional and non-traditional providers. Throughout this document, you may see Beacon Health Options also referenced as Beacon or the ASO.

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Objective

Since 2018, a wealth of new literature has been published reaffirming the importance of Medications for Opioid Use Disorder (MOUDs) in supporting long-term recovery for individuals with Opioid Use Disorder (OUD). Comprehensive studies, published as recently as this year, have shown that individuals with OUD who are inducted onto MOUDs during a hospital stay are significantly less likely to readmit in the future or leave care against medical advice (AMA).[1] The work of the Connecticut Behavioral Health Partnership (CT BHP) until this point through Changing Pathways, data reporting, and beyond has continued to support the expansion of access to MOUDs accordingly. This literature review is intended to uncover additional recommendations for decreasing readmissions to withdrawal management. This review focused on three areas:

1) Preventing members from leaving withdrawal management facilities (WMFs) against medical advice (AMA)
2) Supporting adequate connection to care following discharge from WMFs
3) Supporting adherence to MOUD after discharge to avoid repeat admissions

It is important to emphasize that academic literature studying patients with OUD in the inpatient setting is extremely scarce in general. Moreover, studies published in the last 10 years examining causes for readmissions to withdrawal management (or, even less frequently, strategies for preventing readmissions to this level of care) are even less common, likely because this level of care is largely inaccessible in most states. However, literature on the three areas listed above is more robust, emphasizing the importance of these three strategies in keeping members healthy and decreasing their likelihood of relapse and subsequent readmission to withdrawal management. Accordingly, literature was reviewed utilizing Google Scholar, the Harvard University Library Catalog (HOLLIS), and PubMed to search for peer-reviewed studies predominantly published after 2010. Additionally, some older, canonical publications published before 2010 that are focused on treating SUDs in the inpatient setting were included in this review for adding necessary context. Within each of the three areas of focus listed above, this review points to 1-2 key action items for consideration in support of future interventions for Medicaid members. These action items and the literature supporting them are discussed below in greater detail.

[1] *Wang,* Sijie J., et al. "Effect of Inpatient Medication-Assisted Therapy on Against-Medical-Advice Discharge and Readmission Rates." The American Journal of *Medicine, vol. 133, no. 11, 2020, pp. 1343-1349.*

Preventing Members from Leaving Withdrawal Management Care Against Medical Advice

Members who leave withdrawal management care AMA are at an increased risk of returning for a repeat episode.[2,3,4] Several specific subgroups of individuals with SUD are at an elevated risk for leaving WMFs AMA, including:

- Individuals with a co-occurring psychiatric diagnosis[5,6]
- Individuals with low scores on assessments of circumstances, motivation, and readiness for treatment (CMR)[7]
    - This includes individuals who report having unstable employment, or family stress/obligations while inpatient (e.g., such as being the family's sole financial provider)[8,9]
- Individuals with a history of leaving WMFs AMA[10]
- Individuals admitted to care on weekends or during 3rd shift when quality of care standards are more difficult to enforce[11]

The CMR scale noted in a bullet in the preceding list results from an evidence-based assessment of an individual's circumstances, motivations, and readiness for SUD treatment.[12] Questions asked in this 18-item assessment attempt to capture the various reasons a person is entering treatment, what barriers they foresee in successful treatment completion, and how detrimental they believe their SUD to be to their life and happiness. Accordingly, individuals are assessed on their level of agreement with statements such as "I believe that my family/relationship will try to make me leave treatment" and "I am worried that I will have serious money problems if I stay in treatment."[12] The comprehensive nature of this assessment explains its power in predicting AMA and treatment completion rates. Thus, though implementing an additional 18-question assessment during the intake process is likely an unrealistic goal for many WMF providers, the concepts assessed in the CMR scale can be readily applied during the intake process to help providers understand who is at risk for leaving AMA.

From this information, we thus recommend two action items for providers in support of future interventions to reduce readmissions to WMFs. The first is continuing to support members in WMFs that have co-occurring psychiatric diagnoses through evidence-based practices such as providing behavioral

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[2] *Lail, P., & Fairbairn, N. (2018). Patients with substance use disorders leaving against medical advice: strategies for improvement. Journal of addiction medicine, 12(6), 421.*
[3] *Simon, R., Snow, R., & Wakeman, S. (2019). Understanding why patients with substance use disorders leave the hospital against medical advice: a qualitative study. Substance Abuse, 1-7.*
[4] *Ti, L., & Ti, L. (2015). Leaving the hospital against medical advice among people who use illicit drugs: a systematic review. American journal of public health, 105(12), e53-e59.*
[5] *Alfandre, D. J. (2009). "I'm going home": discharges against medical advice. In Mayo Clinic Proceedings (Vol. 84, No. 3, pp. 255-260). Elsevier.*
[6] *Ling, S., Cleverley, K., Brennenstuhl, S., & Bindseil, K. (2018). Predictors of leaving an inpatient medical withdrawal service against medical advice: a retrospective analysis. Journal of Addiction Medicine, 12(6), 453-458.*
[7] *Ali, Bina, et al. "Distress tolerance interacts with circumstances, motivation, and readiness to predict substance abuse treatment retention." Addictive Behaviors, vol. 73, 2017, pp. 99-104.*
[8] *Jeremiah, J., O'Sullivan, P., & Stein, M. D. (1995). Who leaves against medical advice?. Journal of general internal medicine, 10(7), 403-405.*
[9] *Yuan, S., Ashmore, S., Chaudhary, K. R., Hsu, B., & Puumala, S. E. (2018). The Role of Socioeconomic Status in Individuals that Leave Against Medical Advice. South Dakota Medicine, 71(5).*
[10] *Choi, Mark, et al. "Readmission Rates of Patients Discharged against Medical Advice: A Matched Cohort Study." PLoS ONE, vol. 6, no. 9, 2011, p. e24459.*
[11] *Patel, Rashmi, et al. "Clinical outcomes and mortality associated with weekend admission to psychiatric hospital." British Journal of Psychiatry, vol. 209, no. 1, 2016, pp. 29-34.*
[12] *de Leon G. Circumstances, Motivation, and Readiness (CMR) Scales for Substance Abuse Treatment. New York City: Center for Therapeutic Community Research at NDRI, Inc; 1993. https://www.emcdda.europa.eu/attachements.cfm/att_4083_EN_tcmr.pdf*

counseling as well as pharmacological support for anxiety and mood disorders during care.[13] The second is screening individuals upon admission to WMFs for their relative risk of leaving AMA according to the risk factors listed above. Knowing whether an individual is facing stress regarding work or familial obligations, their history of leaving WMFs AMA, and any co-occurring psychiatric diagnoses can allow providers to proactively address the needs and concerns of patients at higher risk for leaving AMA. For instance, recognizing that utilizing WMFs can cause immediate financial burden leading to AMA, providers can engage in conversations with members reporting unstable employment or family financial stress about the future employment benefits of completing withdrawal management. Indeed, a study by the TOPPS-II Interstate Cooperative Study group showed that "treatment completers were 22% to 49% more likely than non-completers to be employed and to earn higher wages in the year following treatment."[14]

Providers can also continue to focus on delivering a comprehensive, person-centered admissions process during nights and weekends, equipped with the knowledge that individuals admitting during these times are often at higher risk for leaving AMA. In summary, understanding which individuals are at risk for leaving AMA can empower providers to proactively prevent AMA discharges, lowering the likelihood of future readmissions to WMFs.

Supporting Adequate Connection to Care Post-Discharge

Recent literature continues to strongly emphasize the importance of follow-up care after discharge from a withdrawal management episode in reducing readmissions. A recent multi-state study examining over 30,000 Medicaid recipients showed that receiving continued MOUD or residential care following discharge from withdrawal management services significantly decreased the likelihood of readmissions within 90 days.[15] Additionally, even for those members not choosing to use MOUDs in support of their recovery, literature shows that continuing SUD treatment for 14 days after discharge in general–through residential treatment or outpatient treatment–significantly reduces the likelihood of readmission.[16] Thus, fostering adequate connection to care post-discharge is a key area of consideration for reducing overall readmissions for members with OUD.

Several key elements make a connection to care "adequate" according to the literature. The first is timeliness[17], something CT BHP monitors closely through several connect-to-care reports. However, the literature also points to several key qualitative characteristics of an effective warm hand-off that significantly increase the likelihood of connecting to continuing to care, which WMFs can consider implementing.

An adequate warm handoff is "conducted in-person, between two members of the healthcare team, in front

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[13] Grant, B. F., Stinson, F. S., Dawson, D. A., Chou, S. P., Dufour, M. C., Compton, W., ... & Kaplan, K. (2004). Prevalence and co-occurrence of substance use disorders and independent mood and anxiety disorders: Results from the national epidemiologic survey on alcohol and related conditions. Archives of general psychiatry, 61(8), 807-816.

[14] TOPPS-II Interstate Cooperative Study Group. (2003). Drug treatment completion and post-discharge employment in the TOPPS-II Interstate Cooperative Study. Journal of substance abuse treatment, 25(1), 9-18.

[15] Reif, Sharon, et al. "Reducing Behavioral Health Inpatient Readmissions for People With Substance Use Disorders: Do Follow-Up Services Matter?" Psychiatric Services, vol. 68, no. 8, 2017, pp. 810-818.

[16] Lee, M. T., Horgan, C. M., Garnick, D. W., Acevedo, A., Panas, L., Ritter, G. A., Dunigan, R., Babakhanlou-Chase, H., Bidorini, A., Campbell, K., Haberlin, K., Huber, A., Lambert-Wacey, D., Leeper, T., & Reynolds, M. (2014). A performance measure for continuity of care after detoxification: Relationship with outcomes. Journal of Substance Abuse Treatment, 47(2), 130-139. https://doi.org/10.1016/j.jsat.2014.04.002

[17] Duber, H. C., Barata, I. A., Cioè-Peña, E., Liang, S. Y., Ketcham, E., Macias-Konstantopoulos, W., ... & Whiteside, L. K. (2018). Identification, management, and transition of care for patients with opioid use disorder in the emergency department. Annals of emergency medicine, 72(4), 420-431.

of the patient (and family if present)."[16] Though the literature suggests that a face-to-face warm hand-off is most effective, the relatively short average LOS for a withdrawal management episode and the current state of COVID-19 pose significant barriers to achieving this. Thus, CT BHP recommends that providers incorporate their receiving warm hand-off provider and family members (if applicable/desired) during usual discharge planning meetings performed near the end of a member's stay in withdrawal management. COVID-19 has necessitated the availability of video conferencing platforms at unprecedented rates. Providers can consider leveraging this availability to enhance the quality of a team-based warm hand-off process by utilizing HIPAA compliant video conferencing software to include the receiving provider in their discharge planning process. This format can empower members to begin developing trust with their receiving provider and to ask questions and/or develop a deeper understanding of the next steps in their treatment plan that promote adherence.

Each WMF provider may encounter unique barriers to implementing this evidence-based warm hand-off process depending on their current workflow and where members usually connect to when discharging from that specific WMF provider. However, an example of how a WMF provider can consider incorporating joint communication with a receiving provider in their current warm handoff workflow is having a short designated daily window of time for communicating with each of their top two receiving providers. For example, CT BHP's 2016 Inpatient C2C report showed that 40% of members connecting to care post discharge from Rushford's IDPF received 7-day follow-up care within Rushford's system of care, and another 8% received follow-up care at Stonington. In this example, having a daily window of time (e.g. 30 minutes) set up with receiving providers at Rushford and Stonington for virtually introducing members to their receiving provider and reviewing their discharge plan is a concrete way that providers can consider enhancing their warm hand off processes. Family members can be virtually invited to this meeting when applicable with the understanding that schedules might not always accommodate. Though not achievable for all providers, this example underscores how discharging providers can collaborate with receiving providers to enhance their current workflows without necessarily having to reinvent their entire warm hand off process. Accordingly, we recommend that, to the extent possible, WMF providers review their current warm hand-off process and consider operational enhancements, adopting a standard workflow that includes a team meeting with the receiving provider and discharging member and complements their individual team strengths and current processes. This will support enhanced rates of connection to care and fewer readmissions overall.

Supporting Adherence to MOUD after Discharge

Despite evidence that individuals who adhere to their MOUD post-discharge from withdrawal management are significantly less likely to readmit to that same level of care, there are multiple reasons why members do not take their medication as prescribed. Some are related to patient characteristics, such as lack of involvement in the treatment decision-making process or impaired health literacy. Other literature highlights that patients are less likely to adhere to medication regimens that are too complicated, or that weren't adequately described to them by their prescriber.[18] The third frequently-cited reason for non-adherence to medication is connected to systemic barriers in receiving medication and connecting to care, such as transportation.[19,20] Collectively, these reasons help us understand why around 20% of prescribed

[18] *Osterberg, L., & Blaschke, T. (2005). Adherence to medication. New England journal of medicine, 353(5), 487-497.*
[19] *Brown, M. T., & Bussell, J. K. (2011, April). Medication adherence: WHO cares?. In Mayo clinic proceedings (Vol. 86, No. 4, pp. 304-314). Elsevier.*
[20] *Neiman, A. B., Ruppar, T., Ho, M., Garber, L., Weidle, P. J., Hong, Y., ... & Thorpe, P. G. (2017). CDC grand rounds: improving medication adherence for chronic disease management—innovations and opportunities. MMWR. Morbidity and mortality weekly report, 66(45), 1248.*

medications are never filled, and why only half of the medications for chronic conditions such as SUD are taken appropriately.[19]

After a successful connection to care, overcoming the aforementioned barriers to MOUD adherence is a key factor in preventing readmissions to withdrawal management services. Accordingly, we recommend providers consider action in two key areas to continue supporting members in adhering to their MOUD: telehealth and non-traditional care supports such as practicing mindfulness (specifically Mindfulness-Based Relapse Prevention (MBRP) techniques).

As mentioned above, access to ongoing care for individuals with OUD is severely limited in the U.S., a problem exacerbated by COVID-19. Thus, the demand for telehealth services has been unprecedented, and studies have shown that telehealth visits and/or telephonic check-ins can significantly improve adherence to MOUDs.[21] However, systematic literature reviews have identified that even through the pandemic, many members face barriers to accessing telehealth services. The most common barrier to telehealth adoption is computer literacy, specifically among individuals over the age of 50 and those who have not completed any post-secondary education.[22] Accordingly, CT BHP recommends that providers offering continuing care for members with OUD via telehealth ensure administrative staff are trained to assist members in onboarding to telehealth platforms. Providers can incorporate a simple screening assessing education levels and whether members have successfully utilized telehealth platforms previously to target administrative resources to those members who might struggle to use telehealth platforms successfully. We recommend that providers continue to expand their telehealth offering for members with OUD, not just during COVID-19 but well into the future, reducing continued barriers to treatment access and supporting long-term adherence.

Finally, it is important to mention that a growing body of evidence supports the relationship between mindfulness techniques and continued MOUD adherence. An extensive literature review by Li and colleagues on the impact of mindfulness practices showed promising results. Of the 15 RCT studies reviewed, six had significantly reduced substance use compared to a control group, four reported reduced craving, and two reported reduced relapse risk.[23,24,25]

In particular, there is increasing support for Mindfulness-Based Relapse Prevention (MBRP), an outpatient aftercare program linking cognitive-behavioral skills with mindfulness-based practices, in supporting long-term recovery from OUD. MBRP decreases the probability of relapse by teaching individuals how to cope with substance use triggers. Most studies assessing the efficacy of MBRP in reducing the likelihood of opioid relapse examine intensive, multi-week MBRP programs such as that offered at Turnbridge in CT. However, newer literature suggests that providers can offer "ultra brief" (5-19 minute) mindfulness audio exercises to members with OUD that significantly decrease their likelihood of relapse for many months following

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[21] Clements, K. M., Hydery, T., Tesell, M. A., Greenwood, B. C., & Angelini, M. C. (2018). A systematic review of community-based interventions to improve oral chronic disease medication regimen adherence among individuals with substance use disorder. Drug and alcohol dependence, 188, 141-152.
[22] Scott Kruse, Clemens, et al. "Evaluating barriers to adopting telemedicine worldwide: A systematic review." Journal of Telemedicine and Telecare, vol. 24, no. 1, 2016, pp. 4-12.
[23] Li, W., Howard, M. O., Garland, E. L., McGovern, P., & Lazar, M. (2017). Mindfulness treatment for substance misuse: A systematic review and meta-analysis. Journal of Substance Abuse Treatment, 75, 62-96.
[24] Black, D. S., & Amaro, H. (2019). Moment-by-Moment in Women's Recovery (MMWR): Mindfulness-based intervention effects on residential substance use disorder treatment retention in a randomized controlled trial. Behaviour research and therapy, 120, 103437.
[25] Bowen, S., Somohano, V. C., Rutkie, R. E., Manuel, J. A., & Rehder, K. L. (2017). Mindfulness-based relapse prevention for methadone maintenance: A feasibility trial. The Journal of Alternative and complementary medicine, 23(7), 541-544.

administration.[26] Using this technique, for example, providers can increase the likelihood of members' long term recovery with minimal additional costs or increased workload. Thus, we recommend that providers proactively recommend or provide brief MBRP interventions to individuals with OUD to support their continued MOUD adherence and recovery and to assist in preventing future readmissions to withdrawal management care.

Summary

In summary, WMFs can consider implementing new practices within 3 key areas that will further support members with OUD in sustaining their recovery and avoiding readmissions. By treating co-occurring psychiatric conditions and proactively identifying members at risk for leaving AMA upon admission, providers can significantly decrease AMA rates. By enhancing warm hand-off protocols so that they are both timely and inclusive of individuals receiving treatment, their families, and the receiving provider, WMFs can significantly increase rates of connection to care. Finally, as new literature has underscored the efficacy of telehealth practices in increasing adherence to MOUDs, providers can continue to expand their telehealth practices while also providing or recommending evidence-based alternative techniques such as MBRP that can increase the likelihood of long-term MOUD adherence and decrease the likelihood of relapse. Together, enhanced action in these three areas can facilitate a comprehensive, evidence-based strategy for reducing readmissions to withdrawal management care among Medicaid members with OUD.

[26] *Bloom-Foster, Jessica, and Lewis Mehl-Madrona. "An Ultra-Brief Mindfulness-Based Intervention for Patients in Treatment for Opioid Addiction with Buprenorphine: A Primary Care Feasibility Pilot Study." The Journal of Alternative and Complementary Medicine, vol. 26, no. 1, 2020, pp. 34-43.*