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Pharmacist Roles Enhancing Substance Use Disorder Treatment Access, Continuation, and Education in a Problem-Solving Court

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Abstract

Problem-solving courts (PSCs) are major diversionary programs in the United States (U.S.) criminal legal system, mandating substance use and mental health treatment as an alternative to incarceration. While they reduce recidivism, their impact on clinical outcomes remains uncertain. A significant challenge is ensuring participants have access to and remain in evidence-based medication treatments. Notable barriers to treatment engagement and retention include a lack of relationships between PSCs and community treatment providers, as well as pharmacotherapy expertise. A case study highlights the role of a clinical pharmacist in recovery courts. The pharmacist position was created to address a gap in substance use treatment expertise in recovery courts. The position was funded by a research grant and supplemented by the state court administrative office. The pharmacist role evolved into five categories, a liaison between recovery courts and providers; a medication consultant, educating and advising court staff on medications and toxicology test interpretation; court participant care, through medication reviews and adherence support; court educator, providing staff with up-to-date information on new treatments, contaminants, and practical medication considerations; and participant educator on similar issues. The case describes the value of integrating pharmacists in PSCs, enhancing treatment access, participant outcomes, and medication knowledge of court staff.

Keywords: Courts, jurisprudence, pharmacists, opioid-related disorders, buprenorphine

Problem-solving courts (PSCs) are one of the most common diversionary programs in the criminal legal system. PSCs mandate substance use or mental health treatment or other community services in exchange for the avoidance of, or reduction in, incarceration[1,2]. PSCs in the U.S. manage over 150,000 individuals (referred to as "participants") and include different types of specialty courts such as drug (or recovery) courts, mental health courts, veterans courts, DUI/DWI courts, and juvenile treatment courts[1]. Established in 1989, adult drug courts were the original PSC model and remain the most widespread, with more than 1,800 programs operating nationwide[2]. While PSCs do reduce recidivism, their impact on clinical and health-related outcomes is equivocal[3-5]. Participants who fail to complete PSCs may face standard criminal legal processing, prosecution, and potential incarceration. In part, clinical improvement in PSCs may hinge on ability of participants to access and remain in evidence-based treatment, including effective pharmacotherapy for substance use disorder[6].

Medication for opioid use disorder (MOUD) is the standard treatment for opioid use disorder (OUD), but fewer than 15% of individuals with OUD enrolled in U.S. PSCs receive MOUD[7,8]. PSCs often lack the resources, expertise, and ability to refer to or offer treatment and instead must rely on community-based providers to enroll and retain participants. Moreover, PSC staff may lack specialized knowledge about pharmacotherapies, system-based care, and the capacity for collaboration with healthcare providers, further complicating referrals to, and oversight of, court-mandated treatment. Using a case-based approach, we demonstrate that pharmacists' specialized competencies can fill a critical support role to ensure that PSC participants can access and remain in treatment.

Case Study Overview

A clinical pharmacist specializing in pain management and substance use disorder treatments was retained during the implementation of a National Institute of Drug Abuse (NIDA #DA04995) funded organizational linkage intervention study between recovery courts (a type of PSC) and community-based Medication for Opioid Use Disorders (MOUD). The investigators created the position in response to semi-structured interviews with staff (n=21) at seven recovery courts, which identified a need for pharmacotherapy expertise to support court staff in learning about MOUD and in referring and retaining participants in MOUD community treatment[9]. The original implementation study did not include a pharmacist as part of the intervention; rather, the pharmacist position was introduced at the end of the active intervention phase. In response to the findings from the staff interviews, the study principal investigator conducted a literature review that identified only three articles describing how pharmacists and pharmacy students worked in problem-solving courts[10-12]. These manuscripts, along with stated needs and gaps from structured interviews with drug court staff, were used to develop a scope of work for a 0.5 FTE position. Funding for the pharmacist was provided by the state court administrative office, which provides oversight for specialty courts and a research grant supplement.

The pharmacist served as a consultant to three recovery courts, each located in a different county and working with distinct local community treatment providers. Each court had at least one staff member in the following roles: a judge, a probation officer, a defense attorney, an assistant district attorney, a case manager, and/or a mental health clinician. All three sought to enhance access to MOUD for their respective participants and to strengthen collaboration with community-based treatment providers. To support these goals, the consultant pharmacist's role was intentionally designed to be flexible and responsive to each court's needs. Core

responsibilities included educating court staff and participants about MOUD, consulting on medication-related issues and urine toxicology interpretation, and fostering relationships with local treatment providers.

Although there was no formal evaluation of the pharmacists' activities, multiple sources of data were used to identify pharmacist roles and contributions to recovery court activities. The pharmacist maintained a detailed spreadsheet to document weekly recovery court activities, including the type of activity, intended audience (e.g., staff or participants), referral information (if provided), date, time required to complete the task, and court location. The study PI and senior administrative staff reviewed this tracking sheet and provided quarterly summaries to the court oversight agency. Additionally, as part of the larger evaluation for the implementation study, recovery court staff participated in semi-structured interviews, during which they discussed their experience with the pharmacist. While the interviews were not designed to evaluate or categorize the pharmacist's role formally, reference to this work was consistently made and ultimately coded as a separate theme. Using the pharmacist's activity logs, interview data, and feedback from court staff, five categories of pharmacist roles emerged across the three courts (see Table 1).

Liaison. A key function in the role of the liaison was to serve as a go-between recovery courts and community-based MOUD providers. Recovery court staff must collaborate with MOUD providers to refer participants and monitor their progress. However, recovery court staff have been documented to distrust providers, hold stigmatizing beliefs about the use of agonist treatment medications (e.g. methadone and buprenorphine), and lack knowledge about providers and available treatments[9,13]. Conversely, MOUD providers have reported concerns about working with recovery courts, limited understanding of how recovery courts differed from other

legal agencies, and beliefs that addiction-related expertise was not considered in treatment planning by recovery courts[14,15]. An important finding from the implementation study was that both providers (n = 24) and recovery court staff (n = 21) experienced poor communication and reported that it impaired their ability to collaborate[9,14].

As a liaison, the pharmacist learned about treatments offered by local MOUD providers, visited MOUD agencies, and supported communication around referrals to MOUD providers from recovery courts. Additionally, the pharmacist attended weekly recovery court meetings, becoming familiar with the court operations, and addressing questions about insurance and treatment options. In follow-up interviews to the main study where recovery court staff and MOUD providers (n=24) discussed the role of the pharmacist, a recovery court Probation Officer observed, "*I think it's great to have the pharmacist as a way to bridge the communication with the MOUD providers*." (ID305)

Consultant. As a pharmacotherapy and substance use disorder treatment consultant, the pharmacist provided expertise on medication interactions, side effects, treatment regimens, and the management of chronic and co-occurring conditions. Many participants in recovery courts have complex medical histories, including mental health and substance use disorders, infectious diseases, and a range of other chronic conditions[15-18]. These participants often require multiple medications and experience a range of side effects, which can be compounded by other factors such as long-standing pain conditions, inadequate sleep, and poor diet[19]. Understanding the interactions of different medications and their impact on symptoms and clinical presentation is a critical competency that pharmacists can contribute to improving the care and well-being of PSC participants. A recovery court Case Coordinator explained that having a consultant pharmacist helped with, "*…a lot of our questions pertaining to like dosing, and if the probationer is on this*

type of medication, and this other type of medication, is there a side effect if they're on methadone or Suboxone?" (ID314)

The pharmacist also provided support to recovery court staff in interpreting court- and provider-ordered urine toxicology screens. For example, a participant who was receiving methadone, which the recovery court team was aware of, had tested positive for buprenorphine on a toxicology screen. The participant denied using buprenorphine illicitly and had stopped monthly buprenorphine extended-release injections several months ago. The pharmacist capably educated and informed the recovery court staff that extended-release buprenorphine can continue to show positive urine toxicology results for 12 months or more after discontinuation of the monthly injections.

Participant Care. Each of the three recovery courts used the pharmacist's direct care expertise differently. One court asked that the pharmacist conduct a medication review with all new participants and discuss with each participant and recovery staff their respective medication regimen, medication effectiveness, and ways of ensuring treatment adherence. This specific need, not previously been identified, emerged organically in response to the presence and willingness of a pharmacist seeking to support court processes. Another recovery court used the pharmacist to meet with participants only when an issue related to medications arose. The third recovery court typically did not have the pharmacist speak directly with the participants. On some occasions, the pharmacist also served as an indirect support to the participants by contacting pharmacies and providers to ensure that medication orders were accurate or available. Often, participant care meant providing participants with guidance about how and why to properly follow their respective medication regimens. One recovery court defense attorney explained, "*PHARMACIST was able to sit down and have a conversation with him [participant]*

and get him to understand like why that's not a good choice. Like these are the medications you're supposed to be taking. And this is the purpose for them. Why are you choosing not to take them? Let's have a conversation with your doctor about how these are making you feel instead of just choosing not to take them." (ID304)

Court Educator. Recovery court staff often have some training around mental health and substance use treatments and, in recent years, around MOUD. What the staff requested, instead of general MOUD information, was up-to-date, specific information about new treatments or drugs that impacted their management of participants. One recovery court coordinator said, *"[PHARMACIST] brings in [information] when a topic comes up, for example, like the creatinine, the idea that [participants are] watering down their samples. So [pharmacist] brought us information about creatinine, which was great. So [pharmacist] sees the need and fits it."*

To address a common need for medication information across the three courts, the pharmacist began to develop one-page information sheets that described a medication or drug of interest, a summary of the research on the topic, contraindications, and practical issues (e.g., cost or insurance coverage). By request, one-page information sheets have been developed on long-acting injectable buprenorphine medications (e.g., Sublocade® and Brixadi®), common unregulated drug supply contaminants like xylazine, and a review of kratom. These documents have been disseminated not only to the recovery court staff but also to other criminal legal partners, MOUD providers, and healthcare agencies interested in these summaries. As requests for education increased from other drug courts, the pharmacist developed virtual "office hours," where staff from any courts, not just those that were part of the pilot could sign on and ask questions. Notably, the role of an educator differed from that of a consultant, such that the

consultant directly addressed questions about a particular case, whereas in the educator role, pharmacists disseminated general training on a topic.

Participant Educator. Position was originally conceived as providing education groups to recovery court participants, including offering naloxone training and wellness education around smoking cessation, diabetes management, and vaccinations. However, time limitations and other demands prevented implementation of this proposed group participant education role. Education of individual participants has occurred, and, with additional time, the pharmacist would have the opportunity to hold group training for participants in specialty courts either virtually or in person.

This case study indicates that court personnel should consider assessing the needs of their employees and participants regarding MOUD knowledge and consider recruiting pharmacist expertise to meet their PSC needs. This PSC role could be filled by an on-site, dedicated pharmacist employee, or through consultant or academic pharmacist contracts. Many courts work with law schools that offer supervised programs; court systems could also work with colleges and schools of pharmacy to access student pharmacists under a preceptor. Another possible model would utilize pharmacists who can directly prescribe buprenorphine, either themselves or, under a collaborative practice agreement (CPA), to further enhance courts' access to effective MOUD.

Our case study illustrates one model that assessed recovery court needs and identified opportunities for new roles for the pharmacist in criminal legal settings. Notably, our case example had three unique features. First, court system leaders interested in piloting this work and federal funds supported the pharmacist position. After the study concluded, the state court continued to fund the pharmacist position in response to the perceived benefits to their staff and

participants, based on quarterly reports detailing tasks completed and direct feedback from court personnel, including all three judges. Second, the position was created towards the end of an intervention implementation, while not pharmacy-related, it sought to reduce barriers to collaboration between providers and recovery courts. Finally, the pharmacist was part of a large academic center, which provided indirect support, including access to literature, academic colleagues, and administrative assistance.

Conclusion

This case study illustrates the value of a pharmacist's expertise and skills in addressing the needs of PSCs, enabling judges and court personnel to successfully advocate for the court leaders to provide ongoing financial support after grant funding ended. Pharmacists can play important roles in PSCs as liaisons, consultants, educators, and caregivers to optimize the delivery of effective medication treatments. Inclusion of pharmacists in PSCs can foster an interagency, cross-systems approach to addressing the complex clinical needs of participants and the training and education needs of staff.

References:

1. National Institute of Justice. Problem-Solving Courts. https://nij.ojp.gov/topics/articles/problem-solving-courts
2. All Rise. Adult treatment court: Best practice standards. Standards I-VI; 2023.
3. Mitchell O, Wilson DB, Eggers A, MacKenzie DL. Assessing the effectiveness of drug courts on recidivism: A meta-analytic review of traditional and non-traditional drug courts. *Journal of Criminal Justice*. 2012;40(1):60-71.
4. Shaffer DK. Looking inside the black box of drug courts: A meta-analytic review. *Justice Quarterly*. 2011;28(3):493-521.
5. Sevigny EL, Fuleihan BK, Ferdik FV. Do drug courts reduce the use of incarceration?: A meta-analysis. *Journal of Criminal Justice*. 2013;41(6):416-425.
6. Taxman FS, Bouffard J. Treatment inside the drug treatment court: The who, what, where, and how of treatment services. *Substance Use & Misuse*. 2002;37(12-13):1665-1688.
7. Marlowe DB, Theiss DS, Ostlie EM, Carnevale J. Drug court utilization of medications for opioid use disorder in high opioid mortality communities. *Journal of substance abuse treatment*. 2022;141:108850.
8. Farago F, Blue TR, Smith LR, Witte JC, Gordon M, Taxman FS. Medication-assisted treatment in problem-solving courts: A national survey of state and local court coordinators. *Journal of Drug Issues*. 2023;53(2):296-320.
9. Pivovarova E, Taxman FS, Boland AK, Smelson DA, Lemon SC, Friedmann PD. Facilitators and barriers to collaboration between drug courts and community-based medication for opioid use disorder providers. *Journal of Substance Use and Addiction Treatment*. 2023;147:208950.
10. Palombi LC, Fike A, Chang C, Stratton TP, Koh-Knox C. How does a drug court experience influence student pharmacists? *Currents in Pharmacy Teaching and Learning*. 2018;10(10):1331-1341.
11. Palombi LC, Koh-Knox CP. The drug court pharmacist: expanding pharmacy practice and addressing substance abuse. *INNOVATIONS in pharmacy*. 2016;7(3)
12. DeJongh B, Oldani M. Case reports of interprofessional care for clients enrolled in a mental health court. *Mental Health Clinician*. 2018;8(6):317-321.
13. Andraka-Christou B, Atkins D. Beliefs about medications for opioid use disorder among Florida criminal problem-solving court & dependency court staff. *The American Journal of Drug and Alcohol Abuse*. 2020;46(6):749-760.
14. Pivovarova E, Taxman FS, Boland AK, et al. Medication for Opioid Use Disorders (MOUD) Providers' Experiences with Recovery Courts: Qualitative Study of Individual and Systemic Factors Impacting Interagency Collaboration. *Substance Use & Addiction Journal*. 2024:29767342241297745.

15. Ahmed FZ, Andraka-Christou B, Clark M, Totaram R, Atkins DN, Del Pozo B. Barriers to medications for opioid use disorder in the court system: provider availability, provider "trustworthiness," and cost. *Health & justice*. 2022;10(1):24.
16. Speck PM, Connor PD, Hartig MT, Cunningham PD, Fleming B. Vulnerable populations: drug court program clients. *Nursing Clinics of North America*. 2008;43(3):477-489.
17. Belenko S. Research on drug courts: A critical review 2001 update. 2016.
18. Garnett MF, Miniño AM. Drug Overdose Deaths in the United States, 2003–2023. 2024.
19. Dugosh KL, Festinger DS, Lipkin JL. Identifying and addressing the unmet health care needs of drug court clients. *Journal of substance abuse treatment*. 2016;71:30-35.
20. Saseen JJ, Ripley TL, Bondi D, et al. ACCP clinical pharmacist competencies. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*. 2017;37(5):630-636.

Table 1. Example of Pharmacist Roles in Problem-Solving Courts.[17]

Role	Tasks	Pharmacy-Related Competencies
Liaison	Facilitate access to and retention in treatment for; refer to specialized providers; support transitions of care	- Local health systems and provider availability and referral procedures - Systems-based care and community engagement - Insurance set up and management
Consultant	Provide pharmacological expertise around medication appropriateness; interpretation of urine toxicology screens and medication interactions	- Pharmacology, pharmacotherapy, and pathophysiology - Interpretation and application of empirical and clinical findings
Direct Participant Care	Conduct medication review and monitor adherence; assess medication effectiveness, side effects, and safety; develop medication-related treatment plans	- Pharmacology, pharmacotherapy, and clinical symptoms presentation - Up-to-date knowledge of treatments, especially substance use disorders - Access to Prescription Data Monitoring Program
Court Educator	Educate court staff on medication treatments, harm reduction techniques, treatment progression	- Professionalism - Written and verbal communication - Education of non-pharmacists - Up to date knowledge of treatment and harm reduction
Participant Educator	Educate participants on treatment options, wellness initiatives, and treatment adherence techniques	- Professionalism - Written and verbal communication - Education of non-pharmacists - Up to date knowledge of treatment and harm reduction, wellness initiatives

[17]Concepts adapted from Saseen et al., 2017.