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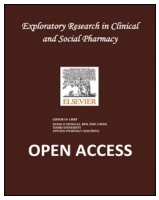

Barriers and facilitators to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals during community reentry

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ABSTRACT

Introduction: Medications for opioid use disorder (MOUD), including injectable naltrexone, are a key component in the treatment of opioid use disorder (OUD). These medications are especially important for individuals transitioning out of correctional facilities and back into their communities. Unfortunately, few formerly incarcerated individuals have access to MOUD upon reentry, incurring a 40-fold greater likelihood of overdose following release compared to the general population. In Wisconsin, community pharmacists have the authority to administer naltrexone injections. However, they have not been explored as a resource for improving access to this medication for this patient population.

Objective: As a first step, the goal of this study was to understand the barriers and facilitators impacting the use of community pharmacist-provided injectable naltrexone by formerly incarcerated individuals during community reentry period.

Materials and methods: The researcher conducted semi-structured interviews with 18 individuals representing five stakeholder groups, including four MOUD prescribers, three community pharmacists, four correctional staff, four community organization or non-profit staff, and three individuals or family members/caregivers of individuals with a history of OUD and incarceration. Deductive and inductive content analysis were used to identify barrier and facilitator categories across the five levels of the Socioecological Model.

Results: Overall, participants discussed factors at every level, and many barriers and facilitators confirmed findings from existing literature focused on MOUD access for formerly incarcerated individuals. Participants also identified factors more specific to community pharmacies, including 1) lack of interagency collaboration between pharmacists, prescribers, and correctional facilities and 2) lack of awareness of community pharmacist-provided injectable naltrexone services.

Conclusions: Future research should explore interventions to address the barriers identified in this study and improve connections between community pharmacists and formerly incarcerated individuals. This work can help ensure that these individuals are given the chance to successfully reintegrate into their communities.

1. Introduction

The opioid epidemic is a major public health issue in the United States (U.S.). More than three million citizens suffer from opioid use disorder (OUD), a problematic pattern of opioid use leading to health problems and/or social distress.[1–3] Specifically, Wisconsin has been significantly impacted by this problem, with opioid overdose deaths increasing 900 % from 1999 to 2019. In 2022 alone, there were 1464 opioid-related deaths in the state.[4,5]

OUD is highly prevalent among individuals involved in the criminal justice system. In 2020, the Wisconsin Department of Corrections (DOC) reported 325 deaths among those admitted to probation and 276 among those released from prison.[6] Medications for opioid use disorder (MOUD), which include methadone, buprenorphine, and naltrexone, are a key component in the treatment of OUD, and are especially important for individuals transitioning out of correctional facilities and back into their communities.[7] Formerly incarcerated individuals receiving MOUD are 85 % less likely to die due to drug overdose in the first month after

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release and have a 32 % lower risk of rearrest.[8]

Unfortunately, few formerly incarcerated individuals are able to access sustainable MOUD treatment upon community reentry, missing a critical tool for rehabilitation and incurring a 40-fold greater likelihood of opioid overdose following release compared to the general population.[9] Previous work has shown that in individuals who are released with doses of MOUD, less than half continue use in the community.[10–12] In Wisconsin, only 47.7 % of jails provided those being released with a community link to MOUD.[13,14] The Substance Abuse and Mental Health Services Administration (SAMHSA) reports that 40–50 % of these individuals are rearrested within a year of release, and 75 % relapse to opioid use within three months.[15] Furthermore, lack of access to MOUD during reentry is tied to racial and ethnic disparities, as Black, Hispanic, and Latine populations are disproportionately impacted.[16,17] Overall, there is a clear need to improve access to MOUD for formerly incarcerated individuals during community reentry. The volume of research in progress shows that more professionals are recognizing this need, but this work remains limited.[18]

While current research efforts are limited, there are certain components of existing interventions and programs that show promise. For example, the success of mobile treatment demonstrates that an accessible location for MOUD treatment can facilitate access.[19] Another unexplored resource that could provide an accessible location is community pharmacies. Community pharmacists are not only considered more accessible than other healthcare providers, but 96.5 % of the U.S. population lives within 10 miles of a community pharmacy.[20,21]

Wisconsin community pharmacists have had the authority to administer long-acting injectable naltrexone treatments since 2019.[22] For formerly incarcerated individuals, injectable naltrexone is associated with improved treatment retention, reduced healthcare utilization, reduced rates of reincarceration, reduced opioid relapse, and improved medication adherence. Additionally, injectable naltrexone is long-lasting and has a decreased risk of abuse potential, making it widely accepted and used among justice-impacted individuals.[23]

Long-term, improving connections between formerly incarcerated individuals and community pharmacists can help increase access to MOUD during the community reentry period. As a first step, the goal of this study was to understand the exiting barriers and facilitators to this care. While previous work has examined barriers and facilitators to MOUD for formerly incarcerated individuals, as well as barriers and facilitators faced by community pharmacists in providing these services, community pharmacist-provided injectable naltrexone has not been explored for this particular population.[22,24–35] This study utilized semi-structured interviews with various stakeholder groups to comprehensively identify existing barriers and facilitators impacting the use of these services by formerly incarcerated individuals.

2. Materials and methods

2.1. Participants and sampling

Participants were recruited for individual semi-structured interviews between September 2023 and January 2024. Study participants were recruited if they were identified as potential stakeholders in transitions of care for formerly incarcerated individuals with opioid use disorder during the community reentry process. Individuals fell within one of five different stakeholder groups: 1) MOUD prescribers with experience providing care for formerly incarcerated patients, 2) community pharmacists with experience administering naltrexone injections to formerly incarcerated patients, 3) professionals working in a correctional setting with experience assisting formerly incarcerated individuals with OUD during reentry planning, 4) professionals working for a community organization or non-profit with experience assisting formerly incarcerated individuals with OUD during reentry planning, and 5) individual patients with a history of incarceration and using injectable naltrexone for OUD treatment OR a family member/caregiver of an individual with a history of incarceration and using injectable naltrexone for OUD treatment. Of note, this study did not specify a timeframe for how long it had been since a formerly incarcerated individual had reentered the community.

Participants from all five stakeholder groups were 18 years of age or older, able to speak and understand English, and residing in Wisconsin. The goal of recruiting individuals from different stakeholder groups was to comprehensively understand the barriers and facilitators to accessing community pharmacist-provided injectable naltrexone from multiple perspectives. This approach was also used to help ensure that barriers and facilitators from every level of the Socioecological Model were discussed. Before conducting this study, the lead researcher engaged in preliminary discussions with individuals who have a history of OUD and incarceration, as well as family members/caregivers of this population, to discuss MOUD access. During these meetings, both groups expressed comparable concerns and highlighted similar barriers to accessing these medications. As a result, individual patients and family members/caregivers were combined into one category, as it was anticipated that both groups would offer similar perspectives during the study. Additionally, patients and family members/caregivers were not recruited from the same family.

Based on previous research and professional experiences, the lead researcher had established relationships with several primary health clinics, pharmacies, and community organizations throughout Wisconsin, which were leveraged to identify and recruit participants. Initial recruitment was limited, especially concerning correctional staff and formerly incarcerated patients, so snowball sampling was utilized to identify additional participants who fit the inclusion criteria. In total, 18 participants were recruited. Participant demographics are shown in Table 1. This study was deemed exempt by the University of Wisconsin-Madison Institutional Review Board.

2.2. Procedures

The lead researcher (JC) created a list of potential participants based on pre-established relationships. All potential participants were informed of the study and invited to participate via email. After indicating an interest in participating, they were emailed an informational sheet about the project and interviews were scheduled. The informational sheet was reviewed by the researcher on the call prior to the start of the interview, after which verbal consent to participate was obtained. The lead researcher emphasized that there was no obligation to participate, and participation was voluntary and could be stopped at any time. All interviews were conducted via Zoom by the lead researcher. Interviews were audio recorded to help facilitate transcription and took 45 min to 1 h. After the interview, participants were sent a five-minute demographic survey, which was returned to the researcher via email. Participants were compensated with $60 gift cards after completion of the interview and survey. In addition to returning the survey, participants were asked to email the lead researcher names and contact information for other individuals who fit the inclusion criteria and may be willing to participate in an interview. These individuals were recruited using the same procedures.

The lead researcher (JC), who had previous experience with interviewing, conducted semi-structured interviews to identify the barriers and facilitators to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals during community reentry. Two interview guides were created by the researchers that aligned with 1) providers, pharmacists, or staff and 2) patients, family members, or caregivers. The interview guides were guided by the Socioecological Model and previous literature. The Socioecological Model, as shown in Fig. 1, is a multilevel model that conceptualizes factors impacting health behaviors and outcomes, as well as the interactions between these factors. It also supports the idea that behaviors both affect and are affected by various contexts.[36–39] The Model has been used extensively in public and population health efforts, including

Table 1
Participant demographics.

ID	Stakeholder group	Age	Years in current position	Experience with injectable naltrexone	Gender	Race	Ethnicity	Education Level	Investigator conducting interview	Interview duration
P01	Community pharmacist	30	5 years	Direct	Male	White	Not Hispanic or Latino	Master or above	JC	1 h
P02	Community/non-profit organization staff	43	6 years	Indirect	Female	White	Not Hispanic or Latino	Master or above	JC	55 min
P03	Community pharmacist	32	2 years	Direct	Male	White	Not Hispanic or Latino	Master or above	JC	1 h
P04	Community pharmacist	50	33 years	Direct	Male	White	Not Hispanic or Latino	Associate or Bachelor	JC	45 min
P05	MOUD provider	40	6 years	Direct	Female	White	Not Hispanic or Latino	Master or above	JC	1 h
P06	Correctional staff	26	2 years	Indirect	Female	White	Not Hispanic or Latino	Associate or Bachelor	JC	48 min
P07	MOUD provider	37	5 years	Direct	Female	White	Not Hispanic or Latino	Master or above	JC	1 h
P08	MOUD provider	40	1 year	Direct	Female	White	Hispanic/ Latino	Master or above	JC	52 min
P09	Community/non-profit organization staff	24	2 years	Indirect	Female	White, Black or African American	Hispanic/ Latino	Associate or Bachelor	JC	50 min
P10	Correctional staff	33	11 years	Indirect	Female	White	Not Hispanic or Latino	Associate or Bachelor	JC	1 h
P11	Community/non-profit organization staff	51	4 years	Indirect	Female	White	Not Hispanic or Latino	Master or above	JC	1 h
P12	Community/non-profit organization staff	40	1 year	Indirect	Male	White	Not Hispanic or Latino	Associate or Bachelor	JC	58 min
P13	MOUD provider	44	5 years	Direct	Female	White	Not Hispanic or Latino	Master or above	JC	50 min
P14	Correctional staff	43	8 years	Indirect	Female	White	Not Hispanic or Latino	Master or above	JC	1 h
P15	Individual patient/ family member/ caregiver	30	N/A	Direct	Male	White	Not Hispanic or Latino	High school or equivalent	JC	1 h
P16	Individual patient/ family member/ caregiver	45	N/A	Direct	Female	White	Not Hispanic or Latino	Associate or Bachelor	JC	58 min
P17	Correctional staff	22	2 years	Indirect	Female	White	Not Hispanic or Latino	Associate or Bachelor	JC	45 min
P18	Individual patient/ family member/ caregiver	59	N/A	Indirect	Female	White	Not Hispanic of Latino	High school or equivalent	JC	50 min

identifying barriers and facilitators to healthcare services. It has also been applied to studies focused on vulnerable populations, including individuals with a history of incarceration and/or substance use disorders.[32,39–48] The interview questions broadly asked participants to identify barriers and facilitators to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals. Prompts were used to have participants think about factors at each level of the Socioecological Model. If necessary, examples were provided to further prompt thinking. Examples were based on previous literature identifying barriers and facilitators to MOUD access for formerly incarcerated individuals.[22,24–35]

Additionally, the researchers anticipated that the use of community pharmacist-provided injectable naltrexone by formerly incarcerated individuals during reentry was limited, and not every participant would have direct experience with coordinating, providing, or receiving these services. As a result, the interview guides included questions for those with or without direct experience. Participants were first asked whether or not they had experience coordinating, providing, or receiving community pharmacist-provided naltrexone injections. If not, participants were asked to discuss anticipated barriers and facilitators based on their perceptions and/or previous experiences with reentry planning and using community pharmacies for healthcare services. The researchers did not ask about any experiences related to drug abuse or addiction outside of access to treatment, and participants were told that they did not have to answer any questions or share any details they were uncomfortable discussing.

2.3. Data coding and analysis

The interviews were transcribed verbatim, de-identified, and verified for accuracy. All participants were assigned an ID number, as shown in Table 1. Transcripts were entered into NVivo, a qualitative data software package (released in March 2020).[49] The researchers performed deductive and inductive qualitative content analysis as outlined in Elo & Kyngäs.[50] Both deductive and inductive approaches were used, as there is some previous knowledge on the barriers and facilitators that impact general MOUD access for formerly incarcerated individuals, as well as factors impacting community pharmacists' abilities to implement injectable naltrexone services.[22,24–35] However, knowledge related specifically to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals is highly limited.

First, the lead researcher (JC), who had experience with qualitative data analysis, developed a categorization matrix based on the five domains of the Socioecological Model. The lead researcher then applied a deductive approach by analyzing the transcripts line-by-line and coding the data according to the matrix. Factors were categorized as a barrier or

Fig. 1. The Socioecological Model[41].

facilitator depending on whether the participant was talking about availability, access, and/or use of community pharmacist-provided injectable naltrexone being hindered or supported by that specific factor. To determine the level of the Socioecological Model, the content of each factor was evaluated. For example, if a participant stated that they did not have personal access to a car or mode of transportation, this would have been coded to the individual level. However, if a participant stated that their neighborhood did not have reliable public transportation, this would have been coded to the community level. Additionally, since community pharmacies were the organization of interest, factors directly impacting the pharmacies were coded to the organizational level. Factors related to other providers, community organizations, or interactions between these stakeholders were coded to the community level. Any discrepancies were resolved during discussions between both researchers. Additionally, these discussions were used to determine data saturation. Data saturation was reached when the interviews revealed no new barriers or facilitators.

Next, the lead researcher (JC) used an inductive approach to group the data within each domain and create higher order categories. Development of categories was supported and confirmed through discussions between both researchers. Any ambiguities were also addressed during these discussions. Finally, representative quotes were selected for each of the categories. Overall, this process was guided by the four-dimension criteria of qualitative research, which outlines strategies for ensuring the credibility, dependability, confirmability, and transferability of qualitative studies. These strategies were used to inform data collection and analysis processes.[51]

3. Results

The Socioecological Model offered a framework for conceptualizing the factors impacting access to community pharmacist-provided naltrexone injections for formerly incarcerated individuals during the community reentry period.[38–41]For each level of the Socioecological Model, categories related to barriers and facilitators were distinguished, as displayed in Table 2. Table 3 highlights representative quotes for each of the barrier and facilitator categories.

Table 2
Categories of barriers and facilitators to community pharmacist-provided naltrexone injections for formerly incarcerated individusals during community reentry.

Barriers	Facilitators
Public Policy Level	
• Cost of drug	• OUD classification
• Cost of drug testing	
• Prescription requirement	
Community Level	
• Stigma	• Accessible pharmacy locations
• Lack of interagency collaboration	
• Lack of available prescribers/injectors	
Organizational Level	
• Administrative constraints	• Flexibility of appointments
• Lack of pharmacy advertising	• Non-judgmental environment*
• Inability of pharmacists to provide additional OUD services	• Pharmacy hours*
Interpersonal Level	
• Negative home/social environment	• Patient advocates/social support
	• Patient-provider relationship
	• Treatment reminders
Individual Level	
• Lack of awareness	• Having a plan and/or goals
• Lack of insurance	• Readiness to change
• Lack of reliable transportation	
• Lack of stable housing	
• Competing priorities	
• Medication side effects	

* Categories labeled with an asterisk were discussed as both barriers and facilitators. However, they were placed under the domain they were most commonly identified as.

3.1. Public policy level

At the public policy level, participants identified barriers related to costs. This included the direct cost of injectable naltrexone, the cost-benefit of providing injectable naltrexone compared to reimbursement for these services, and the cost of offering drug testing. Overall, these expenses can deter community pharmacists from providing naltrexone injections, limiting availability for formerly incarcerated individuals. Additionally, participants explained that patients face barriers because they are required to obtain a prescription from a provider for injectable naltrexone prior to visiting the community pharmacy, potentially adding additional steps for this treatment option. Participants also highlighted that OUD is classified as a disability under the American Disabilities Act (ADA), which may facilitate access to treatment, including MOUD.

3.2. Community level

Participants discussed that community stigma towards formerly incarcerated individuals or substance use disorders can limit available treatment options, as well as patients' desires to seek treatment. Participants also noted that a lack of interagency collaboration between MOUD prescriber clinics, community pharmacies, and correctional institutions can limit communication about the healthcare status or needs of individuals transitioning back into the community. This can negatively impact treatment planning, and professionals may be unclear or make assumptions about specific responsibilities related to patient care. Additionally, a lack of available providers and injectors within the community, including community pharmacists who provide naltrexone injections, was noted. On the other hand, the participants shared that community pharmacies offer an accessible location for formerly incarcerated individuals to receive MOUD, especially those without reliable transportation.

Table 3
Representative quotes.

Public Policy Level Barriers		Public Policy Level Facilitators	
Cost of drug	"I mean, the only thing I think that's frustrating is we've tried looking at us giving the injections of [injectable naltrexone], but they're so expensive." (P07) "When I'm talking transition, they tend to be a little bit messier, but I think because there's so much weight on how expensive the [naltrexone] injection is." (P01) "There's not a very good financial reason to do this service. Like, we're not getting paid enough money to administer. We're actually not getting paid any money to administer the drug right now. And, so, I think a lot of community pharmacies are not willing to do the service or invest time in the infrastructure of the services because the return is not…it's not good." (P04) "That was my initial issue was, like, my insurance wasn't going to cover it, and I was going to have to pay, like, $500 out of pocket. Well, I'm, like, newly clean. I don't have $500 out of pocket." (P16)	OUD classification	"The ADA actually made opioid use disorder a disability, which gives them protected rights to continue the treatment as well." (P11)
Cost of drug testing	"So, there is [a drug test] that actually is out there, and it works. It's super expensive. And they were going to send us, like, test kits… and they just never sent us test kits." (P07)		
Prescription requirement	"And then, if you don't have a prescription for it, then that's one of the biggest barriers. So, I don't know that, that the systems that they're leaving always put a prescription in their hands for what they need to continue on." (P02) "That authorization to actually inject it here through a nice written prescription…And if they forget to click a box within Epic, or if they forget to write us an Rx note that say's 'Okay to administer here,' we're doing a lot more work of chasing them around… documenting that on the hard copy, printing that out, and making sure that we have it in the patient's chart." (P03)		
Community Level Barriers		**Community Level Facilitators**	
Stigma	"Some agent offices, like I said, are super knowledgeable about it, and some don't want anything to do with that. Because, you know, people are still resistant to some of that stuff." (P10) "And then, also, just a lot of stigma in different communities about people taking, like, [injectable naltrexone] or [buprenorphine] or methadone, you know. There's so much stigma around those medications that some people are just not willing to consider going." (P06) "You know, I got some later career physicians who are just, you know, this was not the stuff that they learned in their training. And so, they just don't have that comfort level with it, and even if they really have no, you know, hands on need to involve themselves in it, I think just the fact, you know, there's something going on with their patients that they don't know really what it's about, it has them a little nervous. And	Accessible pharmacy locations	"It's more accessible for certain people who may not have cars or a bus route that leads to the doctor. It's just more accessible." (P15) "But if they're comfortable doing that, then you have, you know, a pharmacy close by that they can walk to to have that done…One of the things we hear, sort of, in thinking about community pharmacies, one of the things you always hear is, like, the accessibility because there are locations everywhere." (P13) "And so, if there was, you know, if there was an issue getting, you know, to one place or the other, you know, there's a community pharmacy, you know, in walking distance to them that they wouldn't have to get on a the bus or get a ride or all that kind of thing." (P05) "If people could wake up and go down the road to [pharmacy] and get the shot, that would

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Table 3 (*continued*)

Public Policy Level Barriers	Public Policy Level Facilitators
	then, I think there are a group of… there's just kind of this, you know, this farce that, okay, if you open AODA purposes, you're going to attract a certain flavor of patient to your clinic." (P05) "I think so many times, people don't want to go to their primary care doctor because the nurse goes to school with your kids and then, you know, there's, like, this community stigma associated with it." (P11)
Lack of interagency collaboration	"What I keep coming across was the thing that is needed is, like, collaboration. So, that's where improved outcomes are from. It's collaboration needs to be improved. And if one person can't speak with the other, good luck." (P07) "Like, case managers were trying to connect with people in the jail. That line of communication wasn't always open. So, that could definitely be improved. And I'd say community providers, in my experience, have been very open and eager and willing to help. But for whatever reason, like, it shouldn't be rocket science, but for whatever reason there's that disconnect with the communication in the jail and providers outside of the jail." (P14) "And so, with this specific drug, how do we grow our network? How do we go out to know the people in the jails and in the prisons?…So, it seems, you know, it's very much that the community pharmacists are a great resource. They're there, and
	be huge." (P18) "There's so many pharmacies all over the place, so they could just walk to you and get it. They don't have to stress about, okay, got to have enough money for a bus ticket or, like, got to make sure I have a family member lined up to drive me." (P17)
	they can play a huge role, but it's still that collaboration piece. Not just all the things the patients are going through, but actually connecting [correctional organizations] with the community pharmacies." (P01) "I think there's a lot of assumptions going on that one agency will assume that the other is handling it." (P04) "We always had that hesitation, though. Kind of, like, a stay in your lane kind of thing…Every now and again, you'll get pushback from somebody who doesn't really appreciate the whole team-centered approach." (P03) "I mean…releases of information are always a barrier. So, but, yeah, if there aren't releases of information, and, like, we don't always get all of the information back… So, maybe the releases of information pieces is a little bit of a barrier, not having the ability to, like, fully communicate one way or the other with that team." (P11)
Lack of available prescribers/injectors	"Yeah, I mean, you know, there's no, there's no misconception that there is a shortage of healthcare providers in general. So, you know, anything that can be, you know, kind of safely delegated from the clinic to, you know, whoever else…is always a welcome thing" (P05)

(*continued on next page*)

Table 3 (*continued*)

Public Policy Level Barriers	Public Policy Level Facilitators
	"It's always a huge challenge, finding treatment providers or injectors. So, like, for example, if I have a patient that's releasing, and I don't know where they're going, I can always connect them with a telehealth provider, which is great access, but then I have to have somewhere where they can get the injection… And, you know, [clinic] has some contracts with some pharmacies… but it's not, there's nothing on a larger scale." (P11) "So, before I started working here, they had a doctor that came every Wednesday, and that's it. So, if you came on a Thursday, you did not see that provider until the following Wednesday… And I can give them the number of the clinic that we use, you know, that they could get medications from, except for, again, that's usually a big waiting game." (P08) "So, I don't think a lot of doctors are getting involved with prescribing or being involved with that patient population other than [county] practitioners who, that's pat of their work." (P04) "We were able to do the injection at [pharmacy]. But an additional barrier is that there wasn't enough trained staff to be able to administer that." (P13)
Organizational Level Barriers	**Organizational Level Facilitators**
Administrative constraints	"I can go, and I can look at [the electronic health record], right? But that's all I can do. Pharmacists don't even have that. Pharmacists actually don't even have a good charting system for you to document when an injection was given, where it was given, other vital signs, much less track any of that and/or allergies." (P07) "There is some paperwork involved. And at this point, I don't have the ability to follow-up with patients. That would probably be something that we would have to institute." (P04) "We do dispense [buprenorphine] and the different forms of films and tablets, but that seems to be less… intense, I guess. Or less, like, I don't know…there's less work to be done in that field or that dispensing because naltrexone injections are a lot more time consuming and there's a lot more questions to be asked before you give someone that." (P01)
	Flexibility of appointments	"I have the ability of getting people in and out of here with a very short notice. It's not like needing an appointment a month in advance, or three days in advance. It's typically, hey, they've had their drug screening, or I'm going to bring them in next week, what time works best?" (P04) "But I think it's reasonable to get back in within 24 h or missing your appointment. Because if you think about it from a clinic or hospital side, if you miss your appointment, like, you're probably not back in for at least a month." (P01) "I think that would be very beneficial. And if you're not comfortable at a pharmacy, it's so easy to switch to a different pharmacy. A lot easier than going to a different treatment center." (P17)

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Table 3 (*continued*)

Public Policy Level Barriers		Public Policy Level Facilitators	
Lack of pharmacy advertising	"So, yeah, it's kind of amazing really that people end up finding their way in there. Because I don't feel that, like, our system does a very good job of advertising this type of thing." (P05) "And we're a small pharmacy, right? We just don't have the advertising capacity that a larger chain pharmacy might have. But I don't think we…I don't think the information on how the injection process goes is widely available. I think that's something that we ourselves could do a better job on." (P01) "Well, there's probably a lot of people that don't even know the service exists. It's not something that we advertise broadly…So, it's by word of mouth that my information has gotten out there. But God only knows the other counties, that information might not be shared." (P04)	Non-judgmental environment	"Where I guess the pharmacy, to me anyway, doesn't seem like it would carry the same… because they know everybody's secrets. They know everything, everybody's treatment. But yet, you don't really worry about the pharmacist telling somebody you just bought a fungal cream or whatever…If a pharmacist had a desire to treat these folks, it could also be a very nonjudgemental environment for people to receive care." (P11) "I think that community pharmacists are more likely, or less likely I should say, to be judgmental than maybe your [clinics]." (P02) "A lot more clients, I feel like, if they got set up, and they're, like, prescribed, would rather go to a pharmacy and go get a shot where it doesn't really look like you're going to these specified treatment facilities where everyone in there knows that you have a substance use disorder. You can go into your neighborhood pharmacy, where you've been known for years. Like, you know, everyone in there gets a shot. You can play if off as whatever you want to play it off as." (P17)
Inability of pharmacists to provide additional OUD services	"So, my only question with the community pharmacy administering [injectable naltrexone] is that these other places, when our participants would go, they would have at least, like, an hour of counseling what	Pharmacy hours	"Because it can work around more, like, hey, I'm leaving for work at this time. Let me just go get my shot before I go to work. I feel like it will help their schedule a lot too." (P17) "Pharmacies are open on the

Table 3 (*continued*)

Public Policy Level Barriers		Public Policy Level Facilitators	
	was associated with that. So, it wasn't just come in, get your treatment, and go…And so, that would be the concern, I guess. Do you lose something if you don't have that component? Or can the person just be getting that component somewhere else?" (P14) "There's this other thing that I think is more important where you should initiate oral meds of naltrexone prior to giving an injection. And that's from the standpoint, right, like, if you inject someone with [naltrexone], and they happen to be allergic to a component that you weren't aware of, that's in their body for 20 days versus a tablet might be there for…I think that's less restrictive, but still a bit of a barrier." (P01) "[A barrier] can be needing to get, well, so, monitoring labs or doing, just getting, like, bloodwork sometimes. Having access to that." (P07)		weekends and later in the evenings. I know some pharmacies that are open at 7 a.m. So, I feel like that accessibility of time." (P08) "I feel like [community pharmacies] are more flexible with their hours." (P16)
Interpersonal Level Barriers		**Interpersonal Level Facilitators**	
Negative home/ social environment	"Because I think that's every, like, every addict's main fear, right? Like, am I going to steer clear of, like, these people, these places, these things that are going to bring me down. A lot of people come from families where their mom or dad or sister living the same house as them, and they're getting high. So, like, am I going to be able to stay away from that?" (P16) "We did have individuals that would go back to their environment after they were	Patient advocates/ social support	"There are certainly case managers…I guess that's a broad label…but they will work with patients who can set up appointments for themselves or figure out how to get rides, transportation for patients. And that seems to be more successful." (P01) "In many ways, family members are amazing. Like, 'My brother is going to pick me up and take me to the clinic.' And also having [peer support specialists] has really helped it flow and taken the pressure off a lot of

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Table 3 (*continued*)

Public Policy Level Barriers	Public Policy Level Facilitators	
		people." (P09)
incarcerated and continue using. And, of course, those fold wouldn't come in for their injection, or would come in and test positive." (P08)		"Just, like, having a new support system…And so, I think making sure they find someone who's a peer support or someone that maybe is a new support that wasn't in their life. So, a few of my guys come out and they have, like, a priest, friends, or pastors… I think having someone that keeps them accountable is very helpful." (P17)
		"Most folks, if they're serving, like, a jail sentence, they get out at 4 a.m. Nothing good happens at 4 a.m. And even if you did have a, you know, prescriber of treatment or appointment at 6 a.m., you still have two hours…you know, a lot can happen in two hours depending on who picks you up from jail. And we have peer providers that will do that a lot of times and, like, hang out with them, take them to breakfast, and then take them to their appointment, so that they're not, you know, jumping in the car with somebody else that, you know, they used to hang out with before, and they're, like, off to the races, and they don't…you know… like, that appointment is no longer a priority for them." (P02)
	Patient-provider relationship	"I think it goes back to being invested in their, in their well-being…I'm biased, but I think we do a better job than some of our competitors…We take, we take the extra time, and we are trying to re-envision some of our models as patient-centered… For some, it's a

Table 3 (*continued*)

Public Policy Level Barriers	Public Policy Level Facilitators	
		name on the screen. It's another prescription. Taking that mentality and flipping it and trying to think of, you know, if this were my loved one…This is not just a name on the screen. These are my patients that are, you know, keeping the lights on. So, we've been trying to change that mentality, and it's been going really, really well." (P03)
		"You have to find a way to motivate them and help them understand that you are here for them, while giving them the inspiration and motivation to let them know that you can do this." (P09)
		"So, a lot of the important part of is just, you know, explaining to them, you know, your role in this. Like, I'm here to make this happen for you, and you know this is what I want to do for you, and getting their trust and getting their buy-in, and, you know, kind of helping them to know that, you know, I'm not just part of their punishment. I'm hopefully trying to be, you know, part of their recovery." (P05)
		"People who are recently released, respect is a big thing. So, as soon as they don't feel respected, they're really going to shut down, and they're ready to be just, like, yeah, no, I'm done." (P17)
	Treatment reminders	"We have a newer system now that does text and phone call reminders. We started off with just making physical, manual phone calls, you know, person to person, making sure

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Public Policy Level Barriers		Public Policy Level Facilitators	
			you're talking to somebody. And now we have the ability to send off text messages to say, 'Hey, your appointment is coming up.'" (P03) "We do offer text messages when the prescription is filled. So, that could be a reminder that they need to show up for their appointment…But I know that they're coming in the next day, so I will queue up the [injectable naltrexone] prescription to be filled that next day. So, they'll get a text as soon as that's done." (P04)
Individual Level Barriers		**Individual Level Facilitators**	
Lack of awareness	"I wasn't made aware that this was an option until we were trying to sift through, you know, an insurance barrier where the patient had coverage of the medicine if it was given at the pharmacy versus the clinic." (P05) "So, it's not…it's not broad knowledge at all. And I didn't know that this was an option for years. I only found this out a few years ago, and I've been working the field for 15…So, what I think a lot of barriers are, is that people don't even know this exists. And I think that's why it doesn't happen" (P10) "I don't think it's something that people really know is something they can do. Maybe in other areas it's much more popular. But, like I said, I had no idea." (P11) "Just knowing that we provide that service, and they're unaware of it, could be a barrier also." (P04) "Just a lack of	Having a plan and/or goals	"I talk to patients the first time I meet with them about establishing their 'why' of why you are here…whether it's court-ordered or whether you're here because you want to better yourself. [Injectable naltrexone] in itself is not something that is going to be a quick fix. It's not something that you're going to get your injection and today I'm never going to use again. Whether it's alcohol or opioid, you need to have some sort of mentality and, sort of, drive as to why you want to get healthy." (P03) "There's also, like, a goal setting worksheet. So, like, their short-term, long-term goals, how, like, they should involve their support with [injectable naltrexone], how they can better manage with counseling…so, that's been [a facilitator]" (P06)

Table 3 (*continued*)

Public Policy Level Barriers		Public Policy Level Facilitators	
	awareness of what's even out there, available. A lot of people, and again, this is mainly anecdotal based on my interactions with participants, but a lot of them will say, 'I didn't even know that there was such as thing of, like, medication-assisted treatment.' So, not even being aware that there's something that could help…But then, also, awareness of how to access it. And I think that's a barrier to people is they just don't know how to ask for help and where to go." (P14)		
Lack of insurance	"Another major barrier was this insurance thing where…now this is commercialized insurance, so keep that in mind…but they wouldn't even cover [injectable naltrexone] on the medical side." (P01) "In addition to that, I think insurance is a huge, you know, huge barrier. We have been able to now with the Medicaid changes in our state, we have jail reentry coordinator…at least be able to sign folks up before they leave…but I still think people are being missed." (P02) "I would say, you know, insurance is a huge barrier for this population. So, I'd say, just their ability to return for a follow-up is sometimes very limited, and then whatever coverage they might have for their medical care could be limited." (P05) "Yeah, so, the biggest barrier for anybody with anything after they're released is having insurance. Because when	Readiness to change	"There was a more serious effort with [his] side. You know, wanting to improve his life and get out of the lifestyle…You saw the difference and the attitude change." (P18) "Fortunately, at that time, I was ready to make a change. And that was a big thing too." (P15 "And so, going into it the second time, being more ready, being more willing. It was a game changer for me." (P16) "I think a lot boils down to somebody's, like, readiness to change, right? Like people actually buying in, wanting to engage right out of custody." (Correctional staff)

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Public Policy Level Barriers		Public Policy Level Facilitators
	someone is incarcerated, it's turned off…And so, the funding of any treatment after release is always a huge challenge." (P11)	
Lack of reliable transportation	"They don't have transportation. And [company], which is the state transportation of folks on Medicaid or Medicare, it's an awful system. It's not…they don't show up a lot." (P02)	
	"So, I mean, I think, you know, a lot of people have transportation barriers…You know, a lot of my patients have revoked driver's license right now. So, you know, their transportation is very limited." (P05)	
	"Transportation is always a problem I would say. Unless somebody has a very solid system in the community, they tend to struggle." (P10)	
	"So, like, I definitely think, like, more reliable transportation… Like, you need reliable transportation, especially for things, like, that are, like, life threatening. Which his the same for [injectable naltrexone], you know? Like, if you can't get there and get the injection, and it's not even your fault, like, then what?" (P16)	
Lack of stable housing	"You know, the hard part is, you know, when I see these people, they're commonly in an unstable living condition situation. They're kind of couch surfing. They don't know where they're going to be from day to day. I've got one client who is, you know, residing at the YMCA and, you know, it's touch and go." (P05)	
	"I notice a lot fail or are inconsistent with treatment…whether it's [injectable naltrexone] or just, you know, AODA group or classes… they really struggle to be consistent with that if they don't have housing… They're constantly in fear that they don't have a secure place." (P17)	
	"A lot of times, you're relying on those patients to be adherent, and they don't have, you know, places to even keep things. They have a backpack on them, and that's it." (P03)	
	"I think, you know, housing stability, like, in their, you know, outside life… Like if they don't have stable housing, they don't show up a lot." (P02)	
Competing priorities	"Another barrier that we found for our clinic was we have these individuals that we are trying to get them re-established in the community in a healthy way. They have a job and want to be involved with their children and so on and so forth. So, to be able to take time off of work when they just started this job during normal business hours… some of them are like 'I understand I need this shot, but I also need this job.'" (P08)	
	"So, the priority is on trying to get a job. It's on trying to get a safe place to sleep. It's trying to figure out how do I make it to my parole agent's office that is ten miles from where I am. So, those are very legitimate challenges that these	

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Table 3 (*continued*)

Public Policy Level Barriers		Public Policy Level Facilitators
	men and women are facing. And I think that makes it even more difficult for them to pursue treatment." (P14)	
Medication side effects	"A flu shot is half an mL of aqueous solution, right? So, it goes in the body really fast, and it's not very much. [Injectable naltrexone] is 4.2 mLs, basically creates a small depot, right? And it's slowly dispersed in the body. So, a lot of people will experience pain and don't have a high pain tolerance. Then it doesn't really work for them." (P01)	
	"That sometimes really scares them and turns them away, I've noticed. Like, I've had a couple guys be like, 'I was really interested, but then I read all those side effects.'" ()	
	"It's one of the worst shots you can get. You are sore for, like, two weeks after getting that thing." (P15)	

3.3. Organizational level

On the organizational level, participants shared that community pharmacists face administrative constraints to providing naltrexone injections, including additional paperwork or the inability to properly document injections. They also noted that community pharmacies don't advertise injectable naltrexone services, and many community pharmacies do not have the ability to provide pre-injection services, such as drug testing, or other services related to OUD treatment, including counseling or therapy. However, participants explained that community pharmacies can provide more flexibility with making or switching appointments and offer a nonjudgemental environment. A few participants pushed back on this idea, stating that patients may feel judged at a local pharmacy, especially if other people are in the pharmacy or recognize the patient. Lastly, participants mentioned that community pharmacists provide more convenient hours. Again, this factor faced pushback by a few participants who noted that community pharmacies may not be open after working hours or on weekends.

3.4. Interpersonal level

The participants explained that treatment access can be hindered if formerly incarcerated individuals are released into the same home or social environment they were in prior to incarceration. They added that this often exposes individuals to "negative" influences or temptations, especially if others are using opioids. However, participants stated that access to treatment can be supported by patient advocates, such as family members, friends, peer support specialists, or case managers. These advocates can help keep patients accountable to their treatment schedule and goals. Similarly, participants highlighted that that positive, trusting, and respectful relationships between formerly incarcerated individuals and their providers can facilitate treatment. Lastly, treatment reminders via call or text can promote the use of MOUD, including community pharmacist-provided injectable naltrexone.

3.5. Individual level

At the individual level, participants noted that there is limited awareness that community pharmacists can and/or do provide naltrexone injections, or that injectable naltrexone even exists as a treatment. In addition to limited patient knowledge, lack of awareness can prevent other providers from referring patients to community pharmacies for injections. It can also prevent reentry staff from recognizing community pharmacists as a resource and educating on or connecting formerly incarcerated individuals to this treatment option. The participants also identified several resources that create substantial barriers when not available, including lack of transportation, lack of insurance, and lack of stable housing. Additionally, participants said that formerly incarcerated individuals may have other responsibilities, such as finding a job, caring for children, or meeting with probation or parole officers, that take priority over finding and receiving treatment. If patients are able to access community pharmacist-provided injectable naltrexone, the side effects of the medication may deter them from continuing to use this option.

The participants explained that treatment access is facilitated when formerly incarcerated individuals have a clear plan, treatment goals, or establish their "why." A "why" can include reasons spanning from parole requirements to being more present for family members. Finally, correctional staff and patients/family members/caregivers stated that treatment, including treatment via community pharmacies, is facilitated when individual patients are ready to make a change. This can directly relate to a patient's "why."

4. Discussion

Overall, both barriers and facilitators were identified at every level of the Socioecological Model. In terms of barriers, the most prevalent categories were at the individual level, with the public policy, community, and organizational level having an even mix. The most prevalent barrier categories included lack of interagency collaboration, inability of pharmacists to provide additional OUD services, lack of awareness, lack of insurance, and lack of reliable transportation. A focus on reducing these barriers may be an important and impactful first step in improving access to injectable naltrexone for formerly incarcerated individuals. On the other end of the spectrum, the most prevalent facilitator categories were at the organizational and interpersonal levels. These included the accessible location of community pharmacies, flexibility of community pharmacy appointments, and the availability of patient advocates or social support. This not only supports the idea that community pharmacies are a promising resource, especially due to their accessible locations, but figuring out how to further leverage facilitators, such as patient advocates, may also help improve outcomes.

There was a high level of concordance between the different stakeholder groups that participated in this study. For example, each of the categories mentioned above were identified by no less than four stakeholder groups, and most were identified by all groups. There were only a few examples of discordance noted between the participants, including discussions of community pharmacy hours and whether or not community pharmacies provide a non-judgmental environment for individuals to receive naltrexone injections. With that in mind, providers and support staff should not automatically assume that patients are

comfortable receiving injectable naltrexone from community pharmacies, and changes to the community pharmacy environment may be necessary to ensure this comfort.

Notably, the participants highlighted that certain factors could have an influence on each other. For example, lack of pharmacy advertising (organizational level) may directly relate to a lack of awareness of community pharmacy services (community level). Similarly, having a social support system (interpersonal level) may help an individual create a plan or identify treatment goals (individual level). Overall, this aligns with the Socioecological Model, which emphasizes interactions between factors at different levels.[36–39] Additionally, while one participant in this study may have talked about a resource as a facilitator, another participant may have talked about the absence of that resource as a barrier. This emphasizes that the results were impacted by how the stakeholders were thinking about specific factors and chose to frame them. These thoughts were likely impacted by the stakeholders' perspectives, previous experiences, and/or current environment. This highlights that the results of this study may differ in other contexts or areas. While this study was focused on Wisconsin, stakeholders from other areas may frame these factors differently, or what is a barrier in one location may be a facilitator in another. Furthermore, it should be noted that not all factors may contribute equally to hindering or facilitating the use of community pharmacist-provided injectable naltrexone by formerly incarcerated individuals. While levels of impact cannot be determined from the results of this study alone, certain factors may exert a greater influence, especially in different areas or on different stakeholders.

Many of the barriers and facilitators noted by participants echo what is shown in the existing literature. This is expected, as factors impacting one MOUD option or treatment location are likely to impact access to injectable naltrexone via community pharmacies.[24–35] Additionally, previous work has highlighted some of the barriers that community pharmacies face in being able to provide injectable naltrexone services, and many of these factors were identified in this study.[22] This was also expected, as barriers to providing certain services are likely to exist regardless of the patient populations or sub-populations who may be using them. However, despite these similar findings, a significant number of categories were also specific to community pharmacist-provided treatment for formerly incarcerated individuals. Notably, these categories included 1) lack of interagency collaboration between primary care clinics, correctional facilities, and community pharmacies (exacerbated by patients requiring a prescription prior to injection) and 2) lack of awareness of community pharmacist-provided naltrexone services, especially among non-community pharmacist providers and correctional staff.

4.1. Limitations

This study presented a few limitations that should be mentioned. First, while the researchers felt that saturation was reached and there was a high level of concordance between the different stakeholders, there were only three to four participants recruited per group. On top of that, certain participants did not have direct experience with coordinating, providing, or receiving community pharmacist-provided injectable naltrexone. These participants discussed anticipated barriers and facilitators based on their perceptions and/or experiences with community pharmacies. Also, this study did not distinguish between formerly incarcerated individuals who were released to the community from jail or prison (either with or without supervision), nor between those who were continuing or initiating injectable naltrexone upon community reentry. Overall, it is possible that saturation was not reached within each stakeholder group, or that the results may have differed with stricter inclusion and exclusion criteria as it relates to the characteristics noted above.

Additionally, several limitations relate to the transferability of the results. The stakeholders included in this study represented several counties across Wisconsin, including urban and rural areas. However, since individuals from every county could not be included, it is possible that the results are not completely representative of all stakeholders' experiences across Wisconsin. The results may also not be generalizable to areas outside of Wisconsin. The smaller sample size also prevented the identification of urban and rural differences. Lastly, across all stakeholder groups, the participants were predominantly female, white, and did not identify as Hispanic or Latino, resulting in a homogenous sample. Despite these limitations, this study was intended to be exploratory in nature, and additional work can help ensure the transferability of these results.

4.2. Next steps

Future research could focus on confirming these findings by including a larger sample of stakeholders. Research should also focus on applying these results to areas outside of Wisconsin. As in Wisconsin, several other states have adopted scope of practice laws that allow community pharmacists to provide long-acting injectable medications, including injectable naltrexone.[52] Researchers should identify states that have these laws and are heavily impacted by OUD (especially among formerly incarcerated individuals). Work should be done to understand how the barriers and facilitators identified in this study translate to these areas and if community pharmacists can be leveraged to improve the use of MOUD for formerly incarcerated individuals upon community reentry. Future research could also apply additional triangulation methods, such as utilizing a different framework or methodology. Additionally, work could be done to more comprehensively explore the laws and regulations that impact access to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals both within and outside of Wisconsin.

Importantly, next steps should focus on understanding how the barriers identified in this study can be feasibly addressed through the development of interventions or policies. Potential solutions could focus on directly reducing barriers or helping formerly incarcerated individuals further leverage resources that support access to community pharmacists-provided injectable naltrexone. These solutions could also focus on barriers or facilitators at any level of the Socioecological Model. For example, interventions could focus on the organizational level and help community pharmacists overcome administrative constraints or advertise injectable naltrexone services. Interventions could also focus on the individual level, helping individuals gain access to transportation, insurance, or stable housing. This work can add to the current research in progress and help emphasize the importance of addressing these healthcare gaps. Long-term, effective interventions or policies can be scaled-out to areas outside of Wisconsin. Finally, work could also be done to understand how community pharmacists can play a role in providing other MOUD options, treating other substance use disorders, or contributing to the care of individuals involved in other areas of the criminal legal system, such as drug treatment courts.

5. Conclusion

The barriers and facilitators identified in this study provide an opportunity to improve access to community pharmacist-provided injectable naltrexone for formerly incarcerated individuals with OUD. Overall, improving access to these services for this patient population has several social and public health implications, including decreased overdose and rearrest/reincarceration rates. Increased access can also support community health and safety and reduce existing healthcare and legal system costs. This work can also help reduce the racial and ethnic disparities that exist around this problem. Importantly, the results of this study provide a step in improving the community reentry process and ensuring that formerly incarcerated individuals with OUD are not tossed aside, but given the opportunity to receive crucial treatment and successfully reintegrate back into their communities.

Authors contribution

JC was responsible for conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, writing the original draft, and reviewing and editing. MC was responsible for conceptualization, supervision, and reviewing and editing. Both authors read and approved the final manuscript.

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Jason S. Chladek: Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Michelle A. Chui:** Writing – review & editing, Supervision, Conceptualization.

Declaration of competing interest

The authors have nothing to declare.

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Glossary

ADA: American Disabilities Act
AODA: Alcohol and other drug abuse
DOC: Department of Corrections
MOUD: Medications for opioid use disorder
OUD: Opioid use disorder
SAMHSA: Substance Abuse and Mental Health Services Administration