

## Context

- Pharmacists play a critical role in health systems given their accessibility in communities and accessibility for direct interactions with patients.
- Recently, many jurisdictions within and outside of Canada have been expanding the roles of pharmacists to include privileges such as prescribing and advising on treatment for minor ailments and chronic conditions.
- This rapid synthesis aims to examine what is known about pharmacist-led interventions for substance-use treatment and how these models are taking shape in comparator countries and across Canadian provinces and territories.

## Question

- What are the features and effects of pharmacist interventions for individuals with substance-use disorder (including opioid-use disorder) on the equity-centred quadruple-aim measures?

## High-level summary of key findings

### Research evidence

- We identified 36 evidence documents relevant to the question, of which we deemed 33 to be highly relevant and six of medium relevance.
- The included evidence syntheses and single studies primarily addressed opioid-related substance use and focused on supporting harm-reduction approaches, prescribing, deprescribing and tapering medication-assisted therapies such as methadone and buprenorphine for opioid use, and to a lesser extent on medication-assisted therapies for alcohol and tobacco.
- Most of the included documents, except for two evidence syntheses, focused on interventions provided in community-based pharmacies.
- Positive health outcomes were identified for pharmacist-delivered patient-education and self-management supports for tobacco use, for take-home naloxone programs and medication-assisted therapy for opioid use, and for screening, brief intervention and referral for alcohol dependence.
- Care experiences across all substances and interventions were generally positive, citing increased accessibility through community-pharmacy delivery.

## Rapid synthesis

### Examining pharmacist interventions for supporting individuals with substance-use disorder

15 December 2023

[MHF product code: RS 114]

### Box 1: Evidence and other types of information

#### + Global evidence drawn upon



Evidence syntheses selected based on relevance, quality and recency of search.

#### + Forms of domestic evidence used (🇨🇦 = Canadian)



Data analytics



Evaluation



Qualitative insights

#### + Other types of information used



Jurisdictional scan (seven countries, Australia, France, Finland, New Zealand, Portugal, Poland, United Kingdom, and all Canadian provinces and territories)

#### \* Additional notable features

This rapid synthesis was prepared in 30 days.

- Across substances, most pharmacists agreed that it was their role to support substance-use treatment, but for opioids many evidence documents highlighted that additional training and clear guidelines are needed for pharmacists to feel comfortable and confident in providing care including naloxone distribution and education and medication-assisted therapies.
- Relatively few evidence documents focused on costs, but one single study from the U.S. found pharmacist administered and dispensed methadone services were cost-effective compared to dispensing via opioid treatment centre.

### **Jurisdictional scan**

- For the jurisdictional scan, we looked at pharmacist-led substance-use treatment in seven countries – Australia, France, Finland, New Zealand, Poland, Portugal and the U.K. – as well as in each Canadian province and territory.
- The majority of identified information related to pharmacists’ roles with respect to opioid-substance use, though findings from two countries – Australia and New Zealand – highlighted pharmacists’ roles in providing support for alcohol and tobacco use.
- Take-home naloxone is available in all countries, but it is often provided at a fee but may be available for free through other settings such as hospitals and community-based addictions centres where fees may not be charged.
- In all countries, pharmacists play a role in distributing and witnessing opioid substitution therapies, namely buprenorphine and methadone, but they differ in the regulations for pharmacists and pharmacies as well as in whether or not these drugs are publicly covered.
- In Canada, all provinces but no territories allow pharmacists to prescribe medication for smoking cessation, but provinces and territories differ in whether pharmacy smoking cessation services, including counselling and nicotine-replacement therapies, are publicly reimbursed.
- Most pharmacies in Canadian provinces and territories provide other harm reduction services including counselling on overdose prevention, education regarding safe use of substances, and referrals to opioid- or substance-use disorder treatment providers or programs.
- In all provinces and territories, pharmacists are responsible for dispensing and witnessing methadone or buprenorphine following a physician’s prescription, with all provinces but no territories allowing for witnessing to take place in a community pharmacy.
- Different training and registration requirements are in place across provinces and territories to allow for pharmacists and pharmacies to deliver methadone and buprenorphine.

## **Framework to organize what we looked for**

We organized our findings using the framework below.

- For what types of substances
  - Alcohol
  - Cannabis
  - Opiates
  - Stimulants
  - Sedatives (e.g., benzodiazepines)
  - Tobacco
  - Nicotine (e.g., vaping or ‘tobacco-free’ products)
  - Injected substances (unspecified type)
  - Other
- In what settings
  - Community pharmacies

- Other community-based settings (e.g., primary-care offices)
- Acute care settings
- Using what interventions/approaches
  - Patient education and supporting self-management
  - Supporting harm-reduction approaches including naloxone education, drug checking and clean needle distribution
  - Prescribing, deprescribing, tapering or adapting/renewing medication-assisted therapies
  - Drug safety monitoring including point-of-care testing/laboratory testing
  - Screening, brief intervention (or de-escalation) and referral
  - Withdrawal management
  - Motivational interviewing
  - Drug delivery, outreach or mobile pharmacy services
  - Witnessing or supervising dose ingestion or administration including supervised injection/consumption sites
  - Contingency management
  - Opioid stewardship
- Using what mode of delivery
  - In-person
  - Virtual
- Using what type of remuneration
  - Fee for service
  - Capitation
  - Global/block funding
  - Salary
  - Episode-based payment
  - Targeted payments/penalties
- Equity-centred quadruple-aim outcomes
  - Health outcomes
    - Mortality
    - Substance use
    - Hospitalization
  - Care experiences
    - Access to care
    - Retention in treatment
    - Patient satisfaction
  - Provider experiences
  - Costs

## Box 1: Approach and supporting materials

We identified evidence addressing the question by searching Health Systems Evidence and PubMed to identify evidence syntheses, protocols for evidence syntheses and primary studies. All searches were conducted on 14 November 2023. The search strategies used are included in Appendix 1. We identified jurisdictional experiences by hand searching government and stakeholder websites for information relevant to the question from seven countries including Australia, Finland, France, New Zealand, Poland, Portugal and the U.K, as well as all Canadian provinces and territories.

In contrast to our rapid evidence profiles, which provide an overview and insights from relevant documents, this rapid synthesis provides an in-depth understanding of the evidence.

We appraised the methodological quality of evidence syntheses that were deemed to be highly relevant using AMSTAR. Note that quality appraisal scores for evidence syntheses such as rapid syntheses/reviews are often lower because of the methodological shortcuts that need to be taken to accommodate compressed timeframes. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents an evidence synthesis of the highest quality. It is important to note that the AMSTAR tool was developed to assess evidence syntheses focused on clinical interventions, so not all criteria apply to evidence syntheses pertaining to delivery, financial or governance arrangements within health systems or to broader social systems.

A separate appendix document includes:

- 1) methodological details (Appendix 1)
- 2) framework to organize what we looked for (Appendix 2)
- 3) key findings from highly relevant evidence documents (Appendix 3)
- 4) key findings from highly relevant jurisdictional experiences (Appendix 4)
- 5) findings from included evidence syntheses (Appendix 5)
- 6) findings from included single studies (Appendix 6)
- 7) documents excluded at the final stages of reviewing (Appendix 7)

## What we found

We identified 36 evidence documents relevant to the question, of which we deemed 33 to be highly relevant and three of medium relevance. The highly relevant evidence documents include:

- 11 evidence syntheses
- 22 single studies.

We outline in narrative form below our key findings related to the question from highly relevant evidence documents and based on experiences from the jurisdictional scan of seven countries (Australia, Finland, France, New Zealand, Portugal, Poland and the U.K.) and all Canadian provinces and territories (see Box 1 for more details).

A summary of the evidence organized by substance and by type of intervention is provided in Appendix 3, while a summary of the experiences from other countries and from Canadian provinces and territories is provided in Appendix 4. Detailed data extractions from each of the included evidence syntheses and from included single studies is provided in Appendix 5 and Appendix 6; hyperlinks for documents excluded at the final stage of reviewing are in Appendix 7.

## Key findings from highly relevant evidence sources

### Coverage by and gaps in the included literature

The included evidence syntheses and single studies primarily addressed opioid-related substance use and focused on supporting harm-reduction approaches (largely clean needle exchange and naloxone distribution) and prescribing, deprescribing and tapering medication-assisted therapies such as methadone and buprenorphine for opioid use, and to a lesser extent on medication-assisted therapies for alcohol and tobacco. Given the volume of literature written on this topic, we restricted our searches for evidence syntheses and single studies from the previous five years, which may explain some of the emphasis on opioid use as compared to other substances. In addition, most of the included documents, except for two evidence syntheses, focused on interventions provided in community-based pharmacies. The two remaining evidence syntheses examined interventions in acute-care settings (1) and other community-based venues such as community centres and Veterans affairs centres.(2)

Many of the included evidence documents focused on identifying barriers and facilitators to community-based delivery of these interventions rather than on evaluating their outcomes. As a result, relatively few findings addressed health outcomes and instead focused on care experiences and provider experiences, and to a lesser extent on costs.

### **What do evidence syntheses and highly relevant single studies tell us about the use of pharmacist-led interventions to support individuals who use substances?**

Evidence documents predominantly focused on the delivery of pharmacist-led substance use interventions in community pharmacies. Most of the included evidence documents examined in-person harm-reduction approaches including selling or providing non-prescription needles and naloxone education and distribution, as well as prescribing, tapering or witnessing medication-assisted therapies such as buprenorphine and methadone for opioid use, naltrexone for alcohol use and nicotine-replacement therapies for tobacco use. Fewer evidence documents focused on patient education and self-management, screening, brief intervention and referral to treatment, and opioid stewardship. Education and supports for self-management were rarely delivered as stand-alone interventions, except for education provided to reduce tobacco use.

We did not identify any evidence syntheses or single studies that addressed other pharmacist-led interventions such as drug safety monitoring, withdrawal management, motivational interviewing, drug delivery services or contingency management. However, monitoring opioid prescriptions was frequently included as part of the other interventions, most commonly alongside education and distribution of naloxone.

Almost all the interventions were delivered in-person, but one recent medium-quality evidence synthesis and one single study examined the use of telephone interventions. The recent medium-quality evidence synthesis reported on the use of telephone-based tobacco cessation services, in which individuals called a cessation ‘hotline’ through which education and a consultation to prescribe nicotine-replacement medication were provided.(3) The single study examined the use of a telephone-based opioid tapering program, which consisted of a personalized tapering plan and ongoing tapering support provided via telephone by a pharmacist, including non-opioid recommendations for pain management and referrals to other services.(4) Despite some success, about half of the patients included in the study reported wanting an in-person component to the service.(4)

With respect to remuneration, none of the included documents evaluated the effects of different approaches to remuneration, however one recent medium-quality evidence synthesis identified the different approaches to remuneration used for tobacco-cessation services.(3) The evidence synthesis found that among included studies that described their reimbursement method, the most frequently used was grant funding followed by fee for service.(3)

Though not related to the remuneration of pharmacists’ services, three single studies from the U.S. identified costs associated with out-of-pocket purchasing of harm-reduction supports from pharmacies including needles and naloxone as a barrier to widespread use.(5-7)

### **What do evidence syntheses and highly relevant single studies tell us about the effects of pharmacist-led interventions for substance use on equity-centred quadruple-aim metrics?**

We identified outcomes related to equity-centred quadruple-aim metrics for the following pharmacist-led interventions:

- patient education and self-management for tobacco cessation
- harm-reduction approaches for opioid use
- prescribing, deprescribing and tapering medication-assisted therapy for alcohol, opioid and tobacco use
- screening, brief intervention and referral for alcohol and opioid use
- opioid stewardship.

#### *Patient education and self-management*

For health outcomes, one recent single study from Canada found intensive pharmacist-delivered patient education and self-management supports reduced smoking behaviour.(8)

For provider experience, one recent single study from the U.S. highlighted that, although most community pharmacists believed it was their role to provide tobacco-cessation education and advice, they were often limited by a lack of time and reimbursement.(9)

For costs, one recent single study from Canada estimated cost per quit from an intensive tobacco-reduction program run by pharmacists to be between \$1,217 and \$1,420.(8)

#### *Supporting harm-reduction approaches*

For health outcomes, one recent medium-quality evidence synthesis found community-based take-home naloxone programs are effective at reducing overdose among community members.(10) Similarly, a second recent medium-quality evidence synthesis found naloxone education and distribution services provided in other settings such as in acute-care settings and in Veterans affairs centres improved the identification of patients at risk of overdose and recipients' overdose knowledge.(2)

With respect to care experiences, four single studies found that community-based pharmacist distribution of naloxone improved access.(7; 11-13) The studies noted that accessibility could be further improved by enhancing privacy when discussing naloxone at community pharmacies and by reducing costs associated with accessing naloxone. In addition, one single study from Ontario reported that the introduction of intranasal naloxone and the removal of health-card requirements substantially increased pharmacy-based naloxone dispensing, particularly among high-risk individuals.(14)

Three evidence syntheses and four single studies reported findings related to provider experience. One recent-medium-quality and two recent low-quality evidence syntheses as well as one single study from the U.S. found pharmacists generally had positive attitudes towards increased practice responsibility for patients at risk of an opioid overdose, including distributing naloxone.(15-18) However, one of the recent low-quality evidence syntheses and three single studies from the U.S. noted that these expanded roles were underutilized, largely due to a lack of specific programs for distribution and limited education and training.(17; 19-21) Supports that could further help pharmacists include standing orders for naloxone, mandating consultations for opioid prescribed patients, and additional education and training about how to integrate naloxone distribution into patient counselling and existing workflow. (15-18)

#### *Prescribing, deprescribing and tapering medication-assisted therapy*

Health outcomes were reported in three single studies focused on opioid use and three evidence syntheses focused on tobacco use.

For health outcomes related to medication-assisted therapy for opioid use, one recent single study from the U.S. found that community-based pharmacists administering and dispensing methadone reduced substance use compared to administering and dispensing in opioid treatment centres.(22) One recent single study from Canada found that patients who filled their prescriptions at a pharmacy collocated with the clinic from which they received the prescription demonstrated higher one-year retention rates compared to those that filled their prescriptions in community, off-site pharmacies after receiving their prescription.(23) Finally, mixed effects were reported in a single study of a pharmacist-led opioid tapering support program for individuals with chronic pain who are receiving 'high-dose opioids' who physicians determined would benefit from a lower dose. While most patients reported a lower dose of opioid use, a quarter of patients reported increased pain and a lower quality of life resulting from the tapering.(4) The study suggested that patients appreciated the role of the pharmacist (and the time and dedication they put towards their care) but would benefit from the inclusion of other types of care providers such as behavioural health specialists.(4) For health outcomes related to medication-assisted therapy for tobacco use, one recent high-quality evidence synthesis, one recent medium-quality evidence synthesis and one older medium-quality evidence synthesis found mixed effects from tobacco-cessation efforts using nicotine-replacement therapies delivered by pharmacists in community settings with effectiveness ranging from 4–77%.(3; 24; 25)

One single study reported on care experiences for pharmacist-delivered medication-assisted therapy for alcohol use, while four single studies reported on care experiences for pharmacist-delivered medication-assisted therapy for opioid use. The single study focused on alcohol use found increased access to alcohol-relapse prevention medication when provided by a community pharmacist.(26) For opioid use, three single studies from the U.S. and one single study from New Zealand found pharmacist administration of methadone increased access to care for

those with opioid-use disorder, but noted that community pharmacies when not appropriately set up to deliver these services can be stigmatizing settings.(22; 27-29).

With respect to provider experiences, all included evidence documents related to opioid use. One recent low-quality evidence synthesis and one single study found education programs – even when delivered virtually – providing information on opioid-use disorder, prescribing procedures, and ways to communicate with patients improve pharmacists’ confidence in dispensing methadone and buprenorphine (22; 30) One recent study from Canada reported that pharmacists felt confident in an expanded role, which included delivery of controlled drugs to those unable to travel to the pharmacy, receiving verbal orders for controlled drugs, renewing or extending prescriptions and transferring prescriptions to another pharmacist.(31)

Finally, with respect to costs, one single study from the U.S. found pharmacist administered and dispensed methadone services were cost-effective compared to dispensing via opioid treatment centres.(22)

### *Screening, brief intervention and referral*

For health outcomes, one older medium-quality review found little effect from community pharmacy–based screening and brief intervention for alcohol dependence at 12 weeks.(24)

With respect to provider experiences, one recent low-quality evidence synthesis identified 12 tools that can be used in community pharmacies to support screening, outpatient intervention referral and naloxone kit dispersion. However, the synthesis notes that growing utilization of mail order and central fill pharmacies is challenging the effectiveness of in-person screening.(32)

### *Opioid stewardship*

One recent medium-quality review examined health outcomes from opioid stewardship programs for individuals with unnecessary or excessive prescribing or dosing of opioids and found they were generally associated with a reduction in opioid use and enhanced knowledge among opioid users. Opioids stewardship programs that included an educational component either led by pharmacists independently or as part of an interdisciplinary team to healthcare professionals and/or to patients have been associated with improvements in outcome measures including reduced opioid use and improving pain scores.(1)

## **Key findings from jurisdictional scans**

For the jurisdictional scan, we looked at pharmacist-led substance-use treatment in seven countries – Australia, France, Finland, New Zealand, Poland, Portugal and the U.K. – as well as in each Canadian province and territory.

### *Key findings from other countries*

We did not identify any relevant information for Finland. Similarly, for Poland, there is almost no role for community-based pharmacies and pharmacists in supporting those with substance-use disorders. Most of the information we identified related to opioid-use disorders. While there are supports for those with opioid-use disorders in place, they are not currently provided in community-based pharmacies but rather in specialized health centres and out of select mobile vans. That said, during the pandemic there was a push from both civil society and national organizations such as the [Polish Drug Policy Network](#) to allow for these services, and particularly the dispensing of opioid substitution therapy. We did not identify changes made to the Act on Counteracting Drug Addiction, but this may be a quickly changing policy area.

The majority of identified information related to pharmacists' roles with respect to opioid-substance use. Findings from New Zealand also indicate pharmacists play an important role in providing [screening and brief interventions for alcohol](#) as well as in [educating and advising for nicotine-replacement therapies](#). Similarly, in Australia, pharmacists are required to undertake [additional training focused on alcohol-use disorders and approaches to support individuals through brief intervention support](#).

Select pharmacies in Australia, New Zealand, [Northern Ireland](#) and [Wales](#) host needle and injecting equipment exchanges for individuals. In Australia, all injecting equipment is provided alongside [self-care cards](#) which include information for individuals on drug overdose, methadone and buprenorphine substitution, and safe injection practices as well as links to further resources including when individuals should seek medical attention. In all four of these countries, pharmacies must apply and register with the boards of their respective colleges to host these services.

Take-home naloxone is available in all countries but is often provided at a fee. In many of these countries, naloxone can be accessed for free through [other public health channels such as hospitals and addictions centres](#). In New Zealand, a prescription is required to access injected naloxone, though [naloxone nasal sprays](#) are available for purchase at pharmacies without a prescription.

In all countries, pharmacists play a role in distributing and witnessing opioid substitution therapies, namely buprenorphine or methadone, but they differ in the regulations for pharmacists and whether or not these drugs are publicly covered. For example, in New South Wales (Australia), pharmacies must apply for appropriate accreditation to supply methadone or buprenorphine, including long-acting buprenorphine. [Once accredited, pharmacies may only serve up to 65 patients](#) (though take-home amounts are not counted in this limit). These services are not covered under Australian Medicare.

In all countries, take-home doses are prescribed by physicians following three to six months of stable treatment. In England, [pharmacists can provide take-home doses for up to one week](#) at a time. A [review of the approach conducted by Public Health England](#) (now the U.K. Health Security Agency) note the important role that community pharmacies play in helping to reduce the extent of drug-related harms by promoting improved hygiene during intravenous drug use and encouraging the use of new needles and syringes and the safe disposal of equipment. The review notes that there is some evidence that exposure to needle and syringe programs (such as the ones run within pharmacies in England) are associated with reductions in HIV transmission among people who use drugs.

#### *Key findings from Canadian provinces and territories*

Little information was found for pharmacists' roles with respect to alcohol, except for Quebec where pharmacists are encouraged to [provide some education and resources related to alcohol including on appropriate levels of consumption](#). In all provinces, pharmacists are required to indicate when alcohol consumption is contraindicated to any medication they are dispensing.

With respect to tobacco, all Canadian provinces but no territories [allow pharmacists to prescribe medication for smoking cessation](#). [Provinces differ in whether pharmacy smoking cessation services](#), including counselling, are publicly reimbursed, with British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Quebec all providing funding for an initial consultation with a pharmacist and a select number of follow-ups, while New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, Northwest Territories, Yukon and Nunavut do not. However, in many of these provinces [nicotine-replacement therapies are provided at a reduced price](#). Federal drug coverage is available to First Nations and Inuit people under the non-insured health benefits program, irrespective of provincial or territorial coverage.



In most Canadian provinces and territories needle exchanges are provided through other public health channels rather than pharmacies. Most pharmacies in Canadian provinces and territories provide other harm reduction services including counselling on overdose prevention, education regarding safe use of substances, and referrals to opioid- or substance-use disorder treatment providers or programs. Though take-home naloxone is available without a prescription in all provinces and territories, it differs in what form it can be accessed (e.g., nasal spray or injection) and whether it is available for free. In provinces such as Saskatchewan, where [naloxone is only available through pharmacies for purchase](#), other public health programs are present that distribute naloxone for free to priority populations.

In all provinces and territories, pharmacists are responsible for dispensing and witnessing methadone or buprenorphine following a physician's prescription. In four provinces – [British Columbia](#), [Ontario](#), [Prince Edward Island](#) and [Newfoundland and Labrador](#) – specific courses and certificates are required for pharmacists and pharmacies interested in providing these services. None of the territories currently allow for opioid maintenance therapies to be provided in community pharmacies and this service is instead delivered out of primary-care centres or out of territory.

## References

1. Gondora N, Versteeg SG, Carter C, et al. The role of pharmacists in opioid stewardship: A scoping review. *Research in Social and Administrative Pharmacy* 2022; 18(5): 2714-47.
2. Rawal S, Osae SP, Cobran EK, Albert A, Young HN. Pharmacists' naloxone services beyond community pharmacy settings: A systematic review. *Research in Social and Administrative Pharmacy* 2023; 19(2): 243-265.
3. O'Reilly E, Frederick E, Palmer E. Models for pharmacist-delivered tobacco cessation services: A systematic review. *Journal of the American Pharmacists Association (2003)* 2019; 59(5): 742-52.
4. Schneider JL, Firemark AJ, Papajorgji-Taylor D, et al. "I really had somebody in my corner." Patient experiences with a pharmacist-led opioid tapering program. *Journal of the American Pharmacy Association (2003)* 2023; 63(1): 241-51.e1.
5. Ostrach B, Potter R, Wilson CG, Carpenter D. Ensuring buprenorphine access in rural community pharmacies to prevent overdoses. *Journal of the American Pharmacy Association (2003)* 2022; 62(2): 588-597.e2.
6. Tofighi B, Martino D, Lekas H-M, Williams SZ, Blau C, Lewis CF. Scaling opioid overdose prevention and naloxone dispensation among rural and small metro area pharmacists: Findings from a qualitative study. *Journal of Substance Use* 2022; 28(4): 568-73.
7. Hanson KA, Smart MH, Mandava MR, Carkovic E, Aslamy M, Lee TA, Pickard AS. Pharmacists and naloxone: Barriers to dispensing and effectiveness of an educational outreach program. *Journal of the American Pharmacy Association (2003)* 2023; 63(2): 608-13.e3.
8. Phillips LCE, Nguyen H, Genge TL, Maddigan WJ. Effectiveness and cost-effectiveness of an intensive and abbreviated individualized smoking cessation program delivered by pharmacists: A pragmatic, mixed-method, randomized trial. *Canadian Pharmacy Journal (Ott)* 2022; 155(6): 334-44.
9. Xiong S, Willis R, Lalama J, Farinha T, Hamper J. Perspectives and perceived barriers to pharmacist-prescribed tobacco cessation services in the community pharmacy setting. *Journal of the American Pharmacy Association (2003)* 2021; 61(4s): S39-48.
10. Cid A, Daskalakis G, Grindrod K, Beazely MA. What Is known about community pharmacy-based take-home naloxone programs and program interventions? A scoping review. *Pharmacy (Basel)* 2021; 9(1): 30.
11. Antoniou T, Pritlove C, Shearer D, Martins D, Tadrous M, Munro C, Gomes T. A qualitative study of a publicly funded pharmacy-dispensed naloxone program. *International Journal of Drug Policy* 2021; 92: 103146.

12. Binswanger IA, Rinehart D, Mueller SR, et al. Naloxone co-dispensing with opioids: A cluster randomized pragmatic trial. *Journal of General Internal Medicine* 2022; 37(11): 2624-33.
13. Tofighi B, Lekas HM, Williams SZ, Martino D, Blau C, Lewis CF. Rural and small metro area naloxone-dispensing pharmacists' attitudes, experiences, and support for a frontline public health pharmacy role to increase naloxone uptake in New York State, 2019. *Journal of Substance Abuse Treatment* 2021; 129: 108372.
14. Antoniou T, Martins D, Campbell T, et al. Impact of policy changes on the provision of naloxone by pharmacies in Ontario, Canada: a population-based time-series analysis. *Addiction* 2021; 116(6): 1514-20.
15. Muzyk A, Smothers ZPW, Collins K, MacEachern M, Wu L-T. Pharmacists' attitudes toward dispensing naloxone and medications for opioid use disorder: A scoping review of the literature. *Substance Abuse* 2019; 40(4): 476-83.
16. Roberts AW, Carpenter DM, Smith A, Look KA. Reviewing state-mandated training requirements for naloxone-dispensing pharmacists. *Research and Social Administrative Pharmacy* 2019; 15(2): 222-25.
17. Thakur T, Frey M, Chewing B. Pharmacist roles, training, and perceived barriers in naloxone dispensing: A systematic review. *Journal of the American Pharmacy Association (2003)* 2020; 60(1): 178-94.
18. Pollini RA, Slocum S, Ozga J, Joyce R, Xuan Z, Green TC, Walley AY. Pharmacists' experiences with a statewide naloxone standing order program in Massachusetts: a mixed methods study. *Journal of the American Pharmacy Association (2003)* 2022; 62(1): 157-66.
19. Parry RA, Zule WA, Hurt CB, Evon DM, Rhea SK, Carpenter DM. Pharmacist attitudes and provision of harm reduction services in North Carolina: An exploratory study. *Harm Reduction Journal* 2021; 18(1): 70.
20. Fadanelli M, Cooper HLF, Freeman PR, Ballard AM, Ibragimov U, Young AM. A qualitative study on pharmacy policies toward over-the-counter syringe sales in a rural epicenter of US drug-related epidemics. *Harm Reduction Journal* 2022; 19(1): 1.
21. Olsen A, Lawton B, Dwyer R, Taing MW, Chun KLJ, Hollingworth S, Nielsen S. Why aren't Australian pharmacists supplying naloxone? Findings from a qualitative study. *International Journal of Drug Policy* 2019; 69: 46-52.
22. Wu LT, Mannelli P, John WS, Anderson A, Schwartz RP. Pharmacy-based methadone treatment in the US: views of pharmacists and opioid treatment program staff. *Substance Abuse Treatment and Prevention Policy* 2023; 18(1): 55.
23. Gauthier G, Eibl JK, Marsh DC. Improved treatment-retention for patients receiving methadone dosing within the clinic providing physician and other health services (onsite) versus dosing at community (offsite) pharmacies. *Drug and Alcohol Dependence* 2018; 191: 1-5.
24. Brown TJ, Todd A, O'Malley C, et al. Community pharmacy-delivered interventions for public health priorities: a systematic review of interventions for alcohol reduction, smoking cessation and weight management, including meta-analysis for smoking cessation. *BMJ Open* 2016; 6(2): e009828.
25. Brett K, Yeung SST, Ford C. CADTH Rapid Response Reports. Pharmacist-led interventions for tobacco smoking cessation: A review of clinical effectiveness and cost-effectiveness. Canadian Agency for Drugs and Technology in Health; 2019.
26. Dhital R, Coleman R, Day E, et al. Service Users' Views and Experiences of Alcohol Relapse Prevention Treatment and Adherence: New Role for Pharmacists? *Alcohol* 2022; 57(5): 602-8.
27. Patil Vishwanath T, Cash P, Cant R, Mummery J, Penney W. The lived experience of Australian opioid replacement therapy recipients in a community-based program in regional Victoria. *Drug and Alcohol Review* 2019; 38(6): 656-63.

28. Lukey R, Gray B, Morris C. 'We're just seen as people that give out the methadone...': exploring the role of community pharmacists in the opioid substitution treatment team. *Journal of Primary Health Care* 2020; 12(4): 358-67.
29. Wu L-T, John WS, Mannelli P, Morse ED, Anderson A, Schwartz RP. Patient perspectives on community pharmacy administered and dispensing of methadone treatment for opioid use disorder: A qualitative study in the U.S. *Addiction Science & Clinical Practice* 2023; 18(1): 12.
30. Davis SA, Dryer R, Zule W, Ostrach B, Carpenter DM. A content review of buprenorphine training programs for pharmacists. *Research and Clinical Social Pharmacy* 2022; 6: 100154.
31. Bishop LD, Rosenberg-Yunger ZRS. Pharmacists expanded role in providing care for opioid use disorder during COVID-19: A qualitative study exploring pharmacists' experiences. *Drug and Alcohol Dependence* 2022; 232: 109303.
32. Lindley B, Cox N, Cochran G. Screening tools for detecting problematic opioid use and potential application to community pharmacy practice: a review. *Integrating Pharmacy and Research Practice* 2019; 8: 85-96.

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