REVIEW

Screening tools for detecting problematic opioid use and potential application to community pharmacy practice: a review

Bryn Lindley[1]
Nicholas Cox[2]
Gerald Cochran[3]

[1]University of Utah, College of Pharmacy, Salt Lake City, UT, USA; [2]University of Utah, College of Pharmacy, Department of Pharmacotherapy, Salt Lake City, UT, USA; [3]University of Utah, School of Medicine, Division of Epidemiology, Salt Lake City, UT, USA

Abstract: Problematic opioid use, constituted by a myriad of conditions ranging from misuse to use disorders, has continued to receive an increasing amount of attention in recent years resulting from the high use of opioids in the United States coinciding with morbidity and mortality. Deaths from drug overdoses increased by over 11% between 2014 and 2015, which supports the need for identification of problematic opioid use in additional health care settings. One of these settings is community pharmacy. The community pharmacy is a unique health service setting to identify and potentially intervene with patients at risk of or exhibit problematic opioid use. Problematic opioid use can be identified using one of the various screening tools in conjunction with evaluating prescription drug monitoring systems. A total of 12 tools were identified that could be employed in community pharmacy settings for identifying problematic opioid use. This review highlights these tools and strategies for use that can be utilized in the community pharmacy, which should be adapted to individual pharmacy settings and local needs. Future research should assess pharmacy personnel's knowledge and perceptions of problematic opioid use and associated screening tools and interventions, which tools can be most effectively used in a community pharmacy, workflow needs to implement problematic opioid use screenings, and the impact of pharmacist engagement in problematic opioid use screening on patient clinical outcomes.

Keywords: opioid use, opioid use disorder, screening tool, community pharmacy

Introduction

Problematic opioid use has continued to receive an increasing amount of attention in recent years resulting from the high use of opioids in the United States coinciding with morbidity and mortality. Given that there is a spectrum of opioid use consumption behaviors associated with opioid-related adverse events, ranging from misuse to a diagnosed disorder, this review will use the term "problematic opioid use" to encompass this myriad of behaviors. In 2017, over 190 million opioid prescriptions were dispensed with a prescribing rate of 58.7 per 100 persons.[1] Likewise, 10,632,000 adults reported the misuse of opioid medications in 2017.[2] More than 36% of individuals in 2017 who reported misuse of opioid medications in the last year obtained these opioids through filling prescriptions.[3] Most unfortunately, high prescribing rates and related problematic opioid consumption patterns contributed to the number of deaths from drug overdoses, which increased by 11.4% between 2014 and 2015. In total for 2015, there were 33,091 deaths due to opioid overdoses alone, which translates to 91 deaths per day from opioid

Correspondence: Gerald Cochran
University of Utah, School of Medicine, Division of Epidemiology, 383 Colorow Dr, Salt Lake City, UT 84108, USA
Email jerry.cochran@hsc.utah.edu

overdoses.[4] These opioid-related adverse events also represent a heavy burden to the healthcare system. Incremental healthcare spending associated with the first episode of opioid misuse, dependence, or overdose ranges from US$5,385 to US$14,810 per individual.[5]

Problematic opioid use often accompanies other disease states, with mental health diagnoses being among the most prominent. Specifically, problematic use is often seen in conjunction with depressive, anxiety, posttraumatic stress, and panic disorders,[6–11] which relationships between mental health and opioids are likely linked insofar that problematic opioid use is a patient's form of self-medication management for underlying psychiatric care needs.[6] In addition to mental health conditions, substance use behaviors also have been closely associated with problematic opioid use, which includes alcohol use disorders, cigarette smoking, other prescription drug misuse, and illicit substance use.[7,8,12] Other studies have identified a relationship between physical health states and problematic opioid use, with acute and chronic pain conditions being among the most prominent.[13] Animal and human data have shown that persistent inflammatory pain can desensitize some opioid receptors from the body's natural increase in endogenous opioid peptides.[13] This desensitization could play a role in the vulnerability of patients to opioid misuse by altering the neurobiological reward pathway.

Given problematic opioid use is a multifactorial health problem along with its significant prevalence and incidence documented across North America, it is critical to have the engagement of multiple types of health care providers to identify and implement solutions. A major-underutilized setting with significant potential for such expansion is community pharmacy,[14,15] which has an unparalleled potential for public health impact in addressing problematic opioid misuse. Between 2007 and 2015, the number of community pharmacies in the United States increased by 6.3%.[16] In 2015, there were over 67,753 pharmacies, which included community, clinic, and mass production pharmacies.[16] Of the 67,753 pharmacies, 50,502 were community pharmacies,[16] with a workforce of more than 170,000 pharmacists.[17] A majority of patients have close access to a pharmacist given that over 90% of United States residents live within 5 miles of a community pharmacy. Most valuably, the community pharmacy is uniquely situated in the healthcare process to screen for and identify patients who exhibit problematic opioid medication use. For example, pharmacists have

rapid and ready access to opioid prescription fill information,[18] including information and training on potentially lethal co-prescriptions, such as opioids benzodiazepine medications.[19–25] Likewise, community pharmacists have a vital patient-specific perspective with ease of access to interact directly and regularly with patients needing information and care.[18] From these interactions, community pharmacists can build a relationship with patients, which likely promotes pharmacists' consistent rank within top-trusted professionals.[26]

Due to these factors, namely relatively easy access to patients and extensive drug and healthcare knowledge, the implementation of practical screening tools in community pharmacies may be an effective strategy to identify patients who exhibit problematic opioid use. However, previous research that has studied pharmacist interest and ability to identify and engage patients regarding opioid use has shown that while most pharmacists view problematic use as a major concern, they report lack both the tools and training to effectively do so.[27,28]

Therefore, in an effort to advance pharmacy practice, supply pharmacists with needed tools, and elevate pharmacists' ability to engage with patients to address the opioid epidemic—the purpose of this literature review is to provide an overview of available screening instruments for problematic opioid use with their corresponding characteristics, strengths, and limitations and to discuss the potential benefits of utilization of these tools in community pharmacies. Without the routine use of evidence-based screening and assessment tools, pharmacy practitioners risk overlooking or incorrectly identifying patient need. Importantly, with this compilation of resources, pharmacists can utilize the results generated by the administration of these tools: 1) to improve patient education on risk of opioid use; 2) as grounds for direct or indirect referrals to addiction professionals for comprehensive assessment and/or medication-assisted therapy; 3) to support provision of referrals to social support/services or mental healthcare; 4) to communicate concerns and/or coordinate care with primary care or medical specialty providers (eg, pain management); 5) as a basis for refusal to dispense medications as appropriate; and 6) as evidence for the need of naloxone rescue kits and/or training. An inherent aspect of a community pharmacists' role is to evaluate the safety of the medication to be dispensed and to do so in a patient-specific manner (eg, how safe is this medication for this patient?). For medications with a baseline higher risk of toxicity/harm (eg, opioids), this safety evaluation is even

more critical. While pharmacists have substantial training and knowledge about opioid medications and their baseline risk, they are often underprepared for the challenging and complicated task of evaluating the patient receiving opioids and their baseline risk. By increasing pharmacists' understanding of screening instruments for problematic opioid use, pharmacists can be better prepared to provide patient-specific care for patients prescribed opioids. Within the following review, it is important to note that when specific measures of problematic opioid use are discussed, we use the language from the authors of that measure that characterize the specific behaviors captured by the instrument itself (eg, aberrant use, misuse, opioid use disorder (OUD)).

Methods

The purpose of this project was to review the published literature and summarize available opioid screening tools. Screening tools were identified by reviewing titles and abstracts of search results on PubMed and Google Scholar. Search terms included "opioid screening tools," "opioid use disorder screening tools," and "opioid misuse screening tools."

Screening tool inclusion criteria for this review consisted of identifying instruments that: 1) were comprised of quantitative/close-ended response set options, 2) possessed empirical support, 3) identified some form or degree of problematic opioid use, and 4) could be implemented in community pharmacy either via pharmacist interview of patients or patient self-report. The following results section summarizes these tools by reporting: number of items, purpose of the tool (ie, specific problematic use pattern identified), method of administration, question response type, recommended actions for clinicians based on results, and validation information. In addition, we provide a narrative discussion of the tools and how such tools may be applied within the community pharmacy setting.

Results

Twelve screening tools were included in this review. Table 1 summarizes the screening tools identified. The Brief Risk Questionnaire (BRQ) is a 12 item, patient self-administered questionnaire that utilizes yes/no and Likert-style questions to assess a patient's risk of opioid misuse by asking a series of behavioral and family, personal, and social history questions.[29] Each answer is given a point value with the total score ranging from 0 to 24.[29] A higher score indicates a

higher risk of misusing opioids.[29] The BRQ was shown to have a higher risk of false positives when compared to the Opioid Risk Tool (ORT), the Pain Medication Questionnaire (PMQ), and the Brief Risk Interview.[29] Within a clinical practice, this tool could be utilized prior to patients starting opioid therapy to assess their risk of misuse. Similarly, this tool could be used in a community pharmacy prior to dispensing a new opioid prescription and technicians could flag patients filling an opioid prescription for the first time and refer them to the pharmacist for consultation prior to dispensing.

The Current Opioid Misuse Measure (COMM) is available as a paper version with 17 items and is self-administered.[30] The COMM identifies patients exhibiting aberrant opioid-related behavior through a series of Likert-style questions.[30] This tool asks the patient to report their behavior over the last 30 days through a series of questions.[30] Because of the Likert questions, each item has the potential of contributing 4 points to the total score.[30] A score ≥9 indicates a positive, while a score of <9 indicates a negative.[30] The COMM has a high sensitivity leading to increased accuracy in identifying patients with aberrant opioid-related behavior.[30] This tool does not distinguish between different types of aberrant behavior, such as opioid misuse or abuse, instead of identifying aberrant behavior.[30] Clinicians can use the results of this tool to determine which patients could benefit from additional counseling, interventions, or a naloxone kit.

The Leeds Dependence Questionnaire is a self-administered questionnaire that contains a 10 Likert-style questions to assess a patient's risk of developing opioid dependence.[31,32] This tool asks a series of questions related to tolerance and withdrawal of opioids.[32] Each item is scored 0–3 with the maximum score being 30.[31] The higher the score, the higher the risk of opioid dependence.[32] Current literature has not established sensitivity or specificity of this tool. Prescribers and pharmacists can use this risk score to identify patients who would benefit from the additional intervention for their opioid risk.

The Mini International Neuropsychiatric Interview (MINI) is a comprehensive questionnaire consisting of 120 items that assess a patient's drug dependence.[32] This tool is available as both a patient and provider administrated tool. While this tool could be used for drug dependence in general, it has specific sections and assessments on opioid use.[32] Both versions of the MINI were validated against the gold standard Structured Clinical Interview for

Table 1 Tools for problematic opioid use assessment

Tool	# Items	Tool purpose	Self- or clinician-administered	Response type	Interpretation	Recommend action	Risk prior to or during opioid therapy	Validation
Brief Risk Questionnaire[29]	12	Identify opioid misuse	Self	Likert and yes/no	Higher the number; the higher the risk	No	Prior	Sensitivity =0.75 Specificity =0.38
Current Opioid Misuse Measure[30]	17	Identify aberrant opioid use behaviors	Self	Likert	Scoring through computer algorithm	No	During	Sensitivity/specificity not reported
Leeds Dependence Questionnaire[31,32]	10	Identify opioid dependence	Self	Likert	Higher the score, higher the risk	No	During	Sensitivity/specificity not reported
Mini International Neuropsychiatric Interview-Patient Rated[32]	120	Diagnose opioid dependence	Self/clinician	Yes/no	Higher score indicates higher risk	No	During	Self: Sensitivity =0.39 Specificity =0.92 PPV =0.35 NPV =0.93 Clinician: Sensitivity =0.45 Specificity =0.96 PPV =0.5 NPV =0.95
National Institute on Drug Abuse modified Alcohol, Smoking, and Substance Involvement Screening Test[33,57]	10	Identify risky opioid use	Clinician	Likert	Higher score indicates higher risk	Yes	Prior or during	Sensitivity/specificity not reported
Opioid Risk Tool[34]	10	Identify chronic pain patients at risk of aberrant opioid use	Self	Yes/no	Higher score indicates higher risk	No	Prior	Sensitivity =0.25 Specificity =0.83
Pain Medication Questionnaire[29,35]	26	Identify chronic pain patients at risk of aberrant opioid use	Self	Likert	Higher score indicates OUD	No	Prior	Sensitivity =0.38 Specificity =0.87

(Continued)

Table 1 (Continued).

Tool	# Items	Tool purpose	Self- or clinician- administered	Response type	Interpretation	Recommend action	Risk prior to or during opioid therapy	Validation
Prescription Opioid Misuse Index[36]	6	Identify opioid misuse	Self	Yes/no	>1 affirmative answer classifies OUD	No	During	Sensitivity =0.852 Specificity =0.692
Rapid Opioid Dependence Screen[32]	8	Identify opioid dependence	Both	Yes/no	≥3 affirmative responses diagnosis opioid dependence	No	During	Sensitivity =0.97 Specificity =0.76 PPV =0.69 NPV =0.98
Severity of Dependence Scale[32]	5	Identify opioid dependence	Self	Likert	Higher the score, the higher the risk	No	During	Sensitivity =0.86 Specificity =0.83 PPV =0.86 NPV =0.83
Screener and Opioid Assessment for Patients with Pain-Revised[37]	24	Identify chronic pain patients at risk of aberrant opioid use	Provider	Likert	≥18 indicates a positive for OUD	No	Prior	Sensitivity =0.81 Specificity =0.68 PPV =0.57 NPV =0.87
Tobacco, Alcohol, Prescription, and Other Substance Tool[38]	4	Identify risky opioid use		Yes/no	Higher score indicates higher risk	No	During	Sensitivity =0.85 Specificity =0.91 PPV =0.32 NPV =0.99

Abbreviations: NPV, negative predictive value; OUD, opioid use disorder; PPV, positive predictive value.

DSM-5 tool and found to have low sensitivity and high specificity with a low-positive predictive value and a high-negative predictive value; therefore, the MINI screening tool can effectively be used to rule out opioid dependence.[32] Prescribers can use the results of this screening tool to identify patients who could benefit from additional education or interventions to decrease their risk for opioid dependence. Because of the large amount of questions, this tool would not be feasible in a traditional community pharmacy workflow. This tool would likely best be administered when the patient can make an appointment with the pharmacist for assessment and discussion about results.

The National Institute on Drug Abuse Modified Alcohol, Smoking, and Substance Involvement Screening Test (NMASSIST) is a 10-item questionnaire adapted from the WHO Alcohol, Smoking, and Substance Involvement Screening Test, version 3.0 and assesses low, moderate, and high illicit or nonmedical opioid use severity.[33] This tool is administered by the provider prior to or during opioid therapy and can be administered via paper or electronic survey.[34] Item scores vary depending on the response to each.[34] The paper survey will outline the risk levels as 0–3 being low risk, 4–26 being moderate risk, and over 26 being high risk.[34] Alternatively, the electronic version will calculate risk level and include recommendations for next actions at the end of the survey.[34] This tool could be beneficial to clinicians because of the recommendations included with the results in addition to screening for abuse of other substances.[34] Sensitivity or specificity are not reported within the current literature.[34] This tool could be utilized by both prescribers and pharmacists to help identify patients with moderate or high risk of illicit or nonmedical opioid use. This could be implemented in pharmacy and clinical practice by pharmacists and prescribers identifying patients with frequent opioid prescriptions with the purpose of reviewing the results and recommendations.

The ORT is a 10-item, yes/no questionnaire self-administered by the patient prior to starting opioid therapy.[34] This tool asks a series of questions about personal and family history of substance abuse as well as psychiatric disorders to assess the risk of aberrant opioid behaviors.[34] The scores for each item vary based on the item and if the patient is female or male.[34] A score 0–3 indicates a low risk of aberrant opioid behaviors, 4–7 indicates a moderate risk, and a score >7 indicates a high risk.[34] This tool has a low sensitivity, but is highly specific, indicating it could be

a good tool in ruling out aberrant opioid behaviors.[34] This tool can be utilized by prescribers to help identify patients who are at a higher risk of aberrant opioid behaviors prior to initiating opioid therapy. Similarly, pharmacists can effectively implement this tool with patients who are filling their first opioid prescription to help personalize counseling or make an alternate therapy recommendation to the prescriber. This tool could also be effectively implemented in a community pharmacy because of its brief nature.

Similar to the ORT, the PMQ is self-administered and assesses behaviors associated with aberrant opioid use. The PMQ has 26 Likert-style questions.[35] The score of each item ranges from 0 to 4 with a maximum possible score of 104. Patients with a score 70–104 are at high risk for aberrant opioid-related behavior, whereas those with a score 35–69 are at moderate risk, and 0–34 are at low risk.[35] The PMQ is highly specific, but is limited in sensitivity, which means this tool could be used effectively to rule out patients at risk of aberrant opioid-related behavior.[29,34,35] Prescribers and pharmacists can implement and utilize this tool in a similar fashion to the ORT, except the PMQ is longer and could be less preferable in a busy pharmacy.

The Prescription Opioid Misuse Index (POMI) is a self-administered tool that contains a series of 6 yes/no questions to help identify patients with opioid misuse while taking prescription opioids.[36] Each affirmative answer receives 1 point with the maximum score being 6.[36] An affirmative answer to >1 question indicates the patient exhibits prescription opioid misuse.[36] This tool has high sensitivity and specificity for identifying patients with patterns of misuse while they are on opioid therapy.[36] This tool could be effectively used by both prescribers and pharmacists to identify patients who are currently on opioids and are exhibiting opioid misuse. Because of the brevity of this tool, it can be implemented into the community pharmacy workflow by the pharmacist or by having a technician initiating the questionnaire and the pharmacist providing additional counseling or dispensing a naloxone kit based on the results.

The Rapid Opioid Dependence Screen (RODS) tool contains 8 items and asks a series of yes/no questions to assess the risk of opioid dependence during current opioid use.[32] This tool could be administered by either a provider or patient.[32] The first 2 questions assess for lifetime use of opioids.[32] The following questions assess physiological, behavioral, and cognitive factors that are associated with opioid dependence.[32] Each affirmative answer receives 1 point with a maximum

score of 8.[32] If a patient's score is 3 or greater, the patient should be considered for the diagnosis of opioid dependence.[32] This tool has high sensitivity and negative predictive value which shows that this tool can be useful in ruling out opioid dependence in patients on opioid therapy.[32] The RODS tool is brief and can be administered quickly. This tool could be integrated in the pharmacy by either having the pharmacist administer the questionnaire or request patients to complete it as they wait for their prescriptions. This tool can help pharmacists identify patients who would benefit from additional counseling or interventions.

The Severity of Dependence Scale (SDS) can be self-administered by the patient during opioid therapy.[32] This tool identifies patients at risk of developing or have already developed opioid dependence by asking a series of 5 Likert-style questions.[32] Each item is scored 0–3 with a maximum score of 15.[32] A higher value indicates that the patient is at high risk of developing opioid dependence, if not already present.[32] This tool has high specificity, sensitivity, negative predictive value, and positive predictive value, which means it can be reliable in identifying patients at risk of developing opioid dependence.[32] The results from this tool could be used by prescribers to determine the level of dependence a patient is experiencing or if they are at risk of developing dependence. Because of the short nature of this questionnaire, the SDS can be a rapid tool to utilize in a community pharmacy. Patients can complete the questionnaire while waiting for their prescriptions and the pharmacist can review the results with them at the point of sale.

The Screener and Opioid Assessment for Patients with Pain-Revised (SOAP-R) is 24 item, provider-administered questionnaire with Likert scale questions.[37] This tool asks a series of questions to assess personal history and psychological disorders in the last 30 days.[37] Each item is scored 0–4 with the maximum score being 96.[37] With a cutoff of 18 or greater, prescribers or pharmacists can utilize this tool to assess the risk of aberrant opioid-related behavior prior to a patient starting opioid therapy.[37] Because of the length of this questionnaire, it would fit into a community pharmacy workflow ideally as a scheduled appointment with the pharmacist where they can administer the questionnaire and review the results. This tool can also help to identify patients who could benefit from a naloxone kit.

Finally, the Tobacco, Alcohol, Prescription, and Other Substance (TAPS) is an online screening tool that can be administered by the patient or provider.[38] It starts with 4 questions, which possess skip patterns in order to isolate only pertinent items to respondents.[38] These first 4 questions assess the frequency of tobacco, alcohol, illicit drugs, and prescription drugs, including opioids, anxiolytics, and stimulants in the last year.[38] From these, the tool focuses on the areas the patient gave an affirmative answer.[38] This tool has 3 questions specific to opiate pain relievers if the patient responded with an affirmative answer in this section of the first 4 questions.[38] This tool is used to assess the risk of problematic opioid use in patients who are currently taking opioids by considering the frequency of opioid use over the past 3 months.[38] Compared to DSM-5 criterion, the TAPS tool has a low-positive predictive value and a high-negative predictive value indicating this tool can be effectively used to rule out risky opioid use.[38] A pharmacist could use the results of this screening tool to refer the patient to appropriate interventions or alter the course of therapy. Due to the potentially short nature of this tool and the ease of online access, this tool could be implemented into the pharmacy workflow. The patient can complete the questionnaire while waiting and the pharmacist can review the results and make recommendations at the point of sale.

While all of these tools are subjective and depend on the patient's response, they can be helpful in identifying patients with problematic opioid use when used in conjunction with another more objective measure. Other objective measures can include a prescription refill history or a review of the prescription drug monitoring program (PDMP).

Prescription drug monitoring programs

Many assessment tools available base risk assessment on patient responses, which may introduce bias in the assessment of the target behavior and may over- or under-estimate patients' risk of having or developing patterns of problematic opioid use. Some tools, for instance, base risk assessment on observed numbers of opioid fills, prescribers and pharmacies, are available in PDMPs. A PDMP is an electronic database that tracks controlled substance prescriptions, including opioids, in and among states.[39] Commonly used metrics to identify the risk of problematic opioid use include high-opioid dosage, patients visiting multiple providers and/or pharmacies, and concurrent use of opioids with medications that can increase the negative effects of opioids, such as benzodiazepines.[40] Previous research has assessed the correlation between OUD and these 3 metrics and found a

significantly higher percentage of patients with OUD fell into at least one of the 3 metrics categories as compared to patients with OUD who did not fall into one of these categories.[40]

Table 2 summarizes PDMP features in the United States (including the District of Columbia). Most states collect data on drugs that are schedules II through V, but some only include II through IV.[41] While most states update their PDMP daily, others update it less frequently.[41] Updating the PDMP in real time or daily allows for prescribers and dispensers to receive the most accurate information about their patient before prescribing or dispensing a controlled substance. A more recent addition to some PDMPs is the prescriber's report card, which is a report that is sent to the provider, either solicited or unsolicited, and summarizes prescribing history and includes a comparison to the average prescriber in that specialty.[36] The goal of this report is to bring awareness to the provider as well as provide an efficient method for providers to review patient risks.[36] Likewise, many PDMPs participate in interstate data sharing.[41] This allows for a more complete-controlled substance fill history that would be used to calculate risk scores, as some patients fill controlled substances in multiple states.[41]

Discussion

Community pharmacists are uniquely situated to effectively administer the above-described tools.[42] Community pharmacists have rapid access to opioid prescription fill information and are positioned to regularly interact with patients more frequently than primary care providers.[18] There are also a growing number of community pharmacies, making patient access to community pharmacists highly feasible.[16] Because of this, employment of the screening tools identified in this review could help identify additional patients with problematic opioid use. Examples of benefits of community pharmacists utilizing these tools include increased identification of patients with problematic opioid use, outpatient intervention referrals, and dispensation of a naloxone kit.[42]

Implementation of screening

Successful implementation of screening tools may require changes to pharmacy workflow and a pharmacy-wide commitment to the effort. The most optimal screening tool may vary depending on existing pharmacy workflow, patient demographics, baseline patient opioid use, misuse, or abuse, and pharmacy personnel training. Fortunately, the National Institute on Drug Abuse is working to enhance to move this important agenda forward. A recent clinical study evaluated the utility of the TAPS screening tool in primary care settings, which results showed strong feasibility and validity for the tool.[43] A current prospective study is underway that is working to validate the TAPS tool in a community pharmacy sample of patients filling opioid medications (NCT03936985), which results have the potential to anchor this instrument specifically to community pharmacy.

An important aspect of feasibility may be relying on non-pharmacist personnel, such as pharmacy technicians, to conduct screenings. A recent study evaluated the use of the POMI and other health screening tools in 4 different community pharmacies in southwestern Pennsylvania.[42] In this study, pharmacy technicians primarily offered/initiated

Table 2 Prescription drug monitoring program summary

Criterion		Number of states
Drugs monitored	Schedule II–V	42
	Schedule II–IV	9
Collection frequency	Daily	46
	Every ≤7 days	4
	Every >7 days	1
Naloxone tracking	Administration information	14
	Dispensation information	3
	Administration and dispensation information	14
Prescriber report card		25
Interstate sharing		45
Prescription Drug Monitoring Program health record integration		43

the survey via electronic tablet to patients over 18 years old while the patient waited for their opioid medication.[42] This study included 333 patients and found a misuse rate of >15% among respondents.[42] The results of this study specifically highlight the feasibility of using the POMI tool in the community pharmacy because of its brevity and accuracy.[42] Given these findings, just as medical assistants regularly perform intake interviews in primary care settings, trained and supervised pharmacy technicians may be optimal to administer questionnaires. Moreover, a community pharmacy could utilize electronic self-administered questionnaires while patients drop off and wait to pick up opioid prescriptions. Such a method could be employed and could precede a pharmacist-directed intervention. Recent research has shown that pharmacy-led screening and intervention can successfully mitigate opioid misuse, decrease depression, improve pain, and deliver overdose prevention messaging and training.[44]

While there are many ways for pharmacists to become more engaged in the assessment of problematic opioid use, there are also barriers to implementation of pharmacist engagement in screening. Some aspects of pharmacy practice have become more impersonal with the utilization of mail order and central fill pharmacies, which do not allow for in-person screening or assessment. In such settings, pharmacists evaluate the patient based solely on their prescription profiles or through PDMPs without direct communications with the patient; this can be problematic when trying to assess the extent or patient-specific features of problematic opioid use.

An additional barrier to screening and assessment lack of pharmacist time. In community pharmacy settings, the pharmacist's time is often limited between normal workflow activities, such as verifying filled prescriptions, receiving phone calls, educating patients on their prescriptions, and monitoring technician work. Family members also may pick up prescriptions on behalf of patients, which does not allow in-person screenings. It is fortunate some large-scale chains have adopted internal policies that mandate counseling to support patient engagement around overdose prevention.[45] Similar actions should be taken regarding the identification of patient risk.

Utility of prescription drug monitoring programs in community pharmacy

PDMPs also stand as important tools to identify patterns of dangerous use of prescription drugs, namely controlled substances. With the combination of the objective PDMP and a more subjective opioid use screening tool, community pharmacists can have effective methods to assess patient risk. This combination of screening methods is particularly salient given that only limited information is available in the field regarding the benefit of PDMPs alone. PDMP analyses have primarily shown reduced opioid prescribing[46–51]; with unclear results for impact on opioid overdose or[52–54] sub-use disorder threshold behaviors, such as misuse.[48,55] These outcomes are likely based on the fact that, while risk metrics are available in many PDMP platforms across the United States, patient-focused decision support for pharmacists is limited if patients are identified as at risk. The pharmacist's response to patient risk information thus is subjective. It is critical for states, PDMP vendors, clinicians, and researchers to work collaboratively to develop, test, and implement such decision support to guide pharmacist actions.

Maintaining/managing clinical judgement

It is critical to note, however, as with all screening tools in other disease states, no tool can completely replace clinical decision-making. The tools summarized in this article, while potentially useful, cannot consider every single patient situation. Pharmacists utilizing these tools must consider multiple factors when making decisions such as whether to intervene with a patient, and whether to dispense. Additionally, pharmacists must be thoughtful when considering the best approach to administer screening questions or questionnaires in the most non-judgmental and non-confrontational manner.

There is substantial social stigma associated with opioid use, and pharmacists should be considerate of these when implementing screenings. Such stigma and concerns were identified in a recent study that collected the perceptions of both the pharmacists and the patients during naloxone dispensation. Results showed some pharmacists were uncomfortable with naloxone dispensation for fear of decreased trust between the patient and pharmacist and misunderstanding as to why the pharmacist is offering naloxone.[56] Some considerations include use of private counseling areas/rooms when administering questions and/or questionnaires, sufficient patient education as to the purpose of questions and/or questionnaires prior to administration, and objective criteria when identifying patient to whom to administer screening tools.

Conclusion

This review summarizes 12 tools available to aid in the screening of patients at risk for problematic opioid use. These screening tools can be utilized for a variety of purposes in community pharmacy settings and could improve pharmacy practice given that tool results could provide critical patient-specific information to pharmacists that may impact dispensing, patient and/or prescriber education, referrals, risk mitigation interventions (eg, naloxone), or other interventions. While this review summarized tools that could be implemented in a community pharmacy setting, it also highlights the need for more research. Future research directions include assessment of which tools can be most effectively used in a community pharmacy and/or other primary care settings, assessment of workflows to implement problematic opioid use screenings, and the assessment of the impact of pharmacist engagement in problematic opioid use screening on patient clinical outcomes. Moving forward with these future directions in research and practice stand to make a critical advancement in the field for identifying, treating, and prevention of opioid-related harm.

Disclosure

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