HHS Public Access

Author manuscript

J Addict Med. Author manuscript; available in PMC 2021 July 01.

Published in final edited form as:

J Addict Med. 2020 ; 14(4): 305–310. doi:10.1097/ADM.0000000000000587.

Common and challenging behaviors among individuals on long-term opioid therapy

Sarah R. Young, PhD, LMSW[1], **Soraya Azari, MD**[2], **William C. Becker, MD**[3,4], **E. Jennifer Edelman, MD, MHS**[4], **Jane M. Liebschutz, MD, MPH**[5], **Payel Roy, MD**[6], **Joanna L. Starrels, MD, MS**[7], **Jessica S. Merlin, MD, PhD, MBA**[5]

[1]Department of Social Work, College of Community and Public Affairs, Binghamton University, Binghamton, NY. 13902, USA

[2]University of California, San Francisco, 1001 Potrero Ave, 1311F, San Francisco, CA

[3]VA Connecticut Healthcare System, 950 Campbell Avenue, Mail Stop 151B, West Haven, CT 06516, USA

[4]Yale School of Medicine, 367 Cedar Street, New Haven, CT 06510, USA

[5]University of Pittsburgh Department of Medicine, McKee Building, 230 McKee Place, Suite 600, Pittsburgh, PA 15213

[6]Boston Medical Center, Boston University School of Medicine, 801 Massachusetts Avenue, Boston, MA 02118

[7]Albert Einstein College of Medicine and Montefiore Medical Center, 111 E. 210th Street Bronx NY 10467

Abstract

Objective: Long-term opioid therapy (LTOT) is commonly prescribed for chronic pain despite risks such as opioid use disorder and overdose. Caring for patients on LTOT can be difficult given lack of evidence about assessment of challenging behaviors among patients on LTOT. To develop this evidence, a critical first step is to systematically identify the common and challenging behaviors that primary care providers encounter among patients on LTOT, as well as to highlight to diverse range of behaviors encountered.

Method: We conducted a Delphi study in 42 chronic pain experts to determine consensus on how to address the top common and challenging behaviors. This paper reports on the first round of the study, which elicited a range of behaviors. We conducted thematic analysis of the behaviors and also used the DSM-5 criteria for Opioid Use Disorder (OUD) as *a priori* codes.

Results: 124 unique behaviors were identified by participants and coded into four thematic categories: 1) Concerning behaviors that map onto DSM-5 criteria for OUD, and those that do not which were: 2) Behaviors that suggest deception, 3) Signs of diversion, and 4) Non-adherence to

Corresponding author address and requests for reprints: Sarah R. Young, PhD, LMSW, Department of Social Work, Binghamton University, P.O. Box 6000, Binghamton, NY 13902-6000, Phone: 607-777-9259, syoung@binghamton.edu.

treatment plan. Those behaviors that fell outside of OUD criteria we identified as “gray zone” behaviors.

Conclusions: While some of these challenging behaviors fall under the criteria for an OUD, many fall outside of this framework making diagnosis and treatment difficult, and consensus on how to deal with these “gray zone” behaviors is vital. Future research should explore how these “gray zone” behaviors can best be assessed and managed in a primary care setting.

Keywords

chronic pain; opioid use disorder; opioid safety

Introduction

Long-term opioid therapy (LTOT) is commonly prescribed for chronic pain (Dowell et al., 2016; IMS’s National Prescription Audit (NPA) & Vector One ®: National (VONA), 2016). Although recent epidemiologic studies suggest this trend is beginning to reverse, opioid prescribing for chronic pain increased steadily until recently (Guy et al., 2017). This means that despite growing evidence of LTOT risks including opioid addiction and overdose, large numbers of patients remain on LTOT and will for the foreseeable future.

Caring for patients on LTOT can be challenging. One challenge that is noted in the literature but not fully characterized is the development of concerning behaviors. These behaviors go by several names, including opioid misuse behaviors and aberrant behaviors; the term “concerning behaviors” describes the phenomenon while minimizing stigmatizing language. These concerning behaviors are extremely common among patients prescribed long-term opioid therapy (Vowles et al., 2015). While prior studies, including contributions by this research team (see Merlin et. al, 2017) have focused on a bounded set of common and challenging behaviors encountered by LTOT prescribers, no attempt has been made to highlight the vast range of behaviors encountered by such providers in attempt to show both the diversity of behaviors and to systematically analyze them.

Concerning behaviors present a management challenge for primary care providers (Dobscha et al., 2008; Merlin et al., 2014; Jamison et al., 2014; Lum et al., 2011). Importantly, demonstrating a single concerning behavior is not equivalent to having an opioid use disorder; rather, there is a differential diagnosis for these behaviors which includes worsening underlying pathology, new pain process, opioid-induced hyperalgesia, and opioid use disorder, among others (Meltzer et al., 2012). Given the dearth of addiction specialists in the United States (U.S. Department of Health and Human Services (HHS), 2016), it often falls to the primary care provider to determine when a person prescribed LTOT has developed an opioid use disorder, and to change management. While questionnaires have been developed to identify misuse (e.g., Current Opioid Misuse Measure, or COMM (https://www.opioidprescribing.com/documents-09-comm-inflexxion.pdf, 2008), they often depend upon patient self-report, are time-consuming, and have limited sensitivity. More commonly, providers have the challenging task of interpreting a diversity of behaviors, separated in time, and made complicated by continued reports of ongoing pain.

The Diagnostic and Statistical Manual (DSM)-5 is also an important resource for providers. Some behaviors that arise from LTOT clearly fit within the criteria of the DSM-5 for opioid use disorder (OUD) (e.g, craving, inability to cut down). However, for other behaviors (e.g., missed appointments, using opioids for symptoms other than pain, or a urine drug screen positive for illicit substance that may represent one-time use), categorization within the DSM-5 may be less clear.

Methods

Overview

The objective of this analysis is to systematically identify the common and challenging behaviors that primary care providers encounter among patients on LTOT. We will consider these behaviors on their own, and also within the context of DSM criteria for OUD.

This paper presents the first round of a four-round Delphi study performed to generate consensus on how to manage concerning behaviors that arise among patients prescribed LTOT (Merlin et al., 2016). To determine which behaviors were the most important in clinical practice, participants indicated which behaviors were the most commonly encountered and most challenging to manage.

Participants and Recruitment

We recruited participants with expertise in chronic pain management from the following sources: 1) anesthesia/pain medicine, internal medicine, neuro/pain medicine, PM&R/pain medicine, psychiatry/pain medicine sub-groups of the Academy of Pain Medicine, 2) Society of General Internal Medicine Pain and Addiction Special Interest Groups, 3) Veterans Affairs Pain Points of Contact (prescribers only), and 4) Safe and Competent Opioid Prescribing Education trainers. Individuals in all four categories were approached for participation.

After an initial email introducing the study and providing a link to the web-based survey, reminder emails were sent weekly for three weeks. Round 1 of this study was launched on March 10, 2015, and closed on May 31, 2015. This study protocol was approved by the Institutional Review Board of the University of Alabama at Birmingham. Additional details about the full Delphi study are included in two prior publications.[13, 14]

Inclusion Criteria

To be included in this study, participants were asked to self-identify as a pain expert by affirming that they: 1) provide direct patient care to adults with chronic pain who are on LTOT in an ambulatory setting and 2) identify LTOT for chronic pain as an area of expertise because they teach, publish, or serve as a resource for others on this topic. The recruitment email that was distributed to potential participants is included in Appendix A.

Data Collection

In addition to collecting basic demographics (e.g., sex, gender, age, race, education, and training and practice information), participants were asked to respond to the following: 1)

List all behaviors and other concerning signs you would consider to be problematic among patients taking long-term opioids (>3 months) (*Note: Problematic behaviors may also be referred to as opioid misuse behaviors or aberrant drug-related behaviors*); 2) Of the behaviors and concerning signs you listed, which two do you think are the most common in clinical practice? 3) Of the behaviors and concerning signs you listed, which two do you think are the most challenging to manage in clinical practice?

Analysis

Two authors (JSM and SRY) led the secondary analysis of Round 1 data. To eliminate any redundancies and unify related responses under one code wherever possible, we took a thematic approach to coding using NVivo qualitative data analysis software (V. 10; QSR International Pty Ltd, Melbourne, Australia). During the first reading of the data, we noticed that many of the concerning behaviors identified by participants mirrored language of criteria used to diagnose an OUD. To recognize this in a concise way, we used OUD diagnostic criteria as a priori codes. We (JSM and SRY) reviewed all textual data and identified themes using an open-coding approach and consensus discussions to create the initial codebook (Saldana, 2013). These emergent themes were then discussed with the wider authorship team, who provided iterative analytic input and helped refine the first version of the codebook. Disagreements about how data should be coded were discussed and reconciled, and to allow for ambiguity or uncertainty of the precise meaning of participant responses we allowed data to be coded under multiple themes when appropriate. After consensus was reached on the codebook and major themes, one author (SRY) then re-coded all data using the final codebook. These data were presented back to the authorship team once again for feedback. We used inductive analysis for the open-coding of behaviors. Deductive analysis was used to map behaviors onto DSM-5 criteria for OUD.

Results

Of the 319 potential participants who received an email (Appendix A) about the study, 42 responded. Most participants were female and were trained in internal medicine. Demographic data are summarized in Table 1. Twenty-seven behaviors were rated by at least one participant as being one of the two most challenging behaviors, and 26 behaviors were rated by at least one participant as being one of the two most common behaviors. The common and challenging designations determined which behaviors would be prioritized for more detailed exploration in round 2 of the full Delphi study (Merlin et al., 2017; Merlin et al., 2016).

Participants generated a list of 124 unique behaviors (including codes and sub-codes). Four overarching themes emerged:

1. Behaviors that mapped onto DSM-5 criteria for OUD
2. Behaviors that suggest deception
3. Signs of diversion
4. Non-adherence to treatment plan

We allowed codes to appear in more than one major category. Here, we present a summary of each of the four themes including the two most frequent sub-themes within each theme. See Table 2 for a complete list of themes.

1. Behaviors that Mapped onto DSM-5 Criteria for OUD

This category included 49 behaviors that supported the a priori OUD coding criteria. Nineteen of these codes were noted to be common or challenging behaviors by at least one participant. The most frequently noted common and challenging behaviors were: 1) using more opioid (medication) than prescribed (corresponding to the DSM-5 criterion of "taking the opioid in larger amounts and for longer than intended"), and 2) anger or aggression (corresponding to the DSM-5 criterion of "continued use despite persistent or recurring social or interpersonal problems caused or exacerbated by opioid use").

In many cases, participants used language that was nearly identical to the DSM-5 OUD diagnostic criteria, such as "taking opioids in larger amounts or for longer than intended." Other examples of responses that were grouped under these themes include the following: "pharmacy shopping" and "previously fired by pain management" (both coded under "spending a lot of time in activities necessary to obtain the opioid, use the opioid, or recover from its effects"), "repeated failure to appear at appointments or other treatment recommendations" (coded as "recurrent opioid use resulting in a failure to fulfill major obligations at work, school, or home"), and "arrests or legal issues" (coded as "continued use despite persistent or recurring social or interpersonal problems caused or exacerbated by opioid use").

2. Behaviors That Suggest Deception

This category included behaviors that suggested deception, fraud, or manipulation on behalf of the patient. This category included 19 codes, 7 of which were noted to be a common or challenging behavior by at least one participant. The two most frequently noted common and challenging behaviors in this theme were: 1) actions that raise suspicion of faking or exaggerating pain and 2) missing appointments, as some of the data from this theme indicated that this was a repeated pattern on behalf of the patient with no explanation.

A sample of responses that were coded under this theme include: "patient sends relative or friend to clinic to pick up secure Rx," "patient comes to clinic drop-in for opiate refill instead of regular appointment," "bringing family members to ask for an increase [in dose]," and "allergies to all opioids save for a specific one."

3. Signs of Diversion

This category included any challenging or common behaviors that suggested that the patient was diverting their opioid prescription. The team defined "diversion" as a suspicion that the patient was not using medication for prescribed purpose, and was transferring it to others for illicit use. This category included 11 behaviors, 2 of which were noted to be a common or challenging behavior by at least one participant. The most frequently mentioned common or challenging behaviors in this theme were: 1) diversion and 2) lost or stolen meds.

A sample of responses that were coded under this theme include: “sharing prescriptions,” “lost or stolen scripts without police reports,” “altering opioid prescriptions,” and “arrest records/legal issues.”

4. Non-adherence To Treatment Plan

This category included any challenging or common behaviors that arose during drug monitoring or when implementing the treatment plan. Behaviors either arose because the patient did not adhere to treatment recommendations or the patient tested positive for drugs that were unexpected and/or not prescribed. This category included 12 codes and sub-codes, 7 of which were noted to be a common or challenging behavior by at least one participant. The top two most frequent behaviors were 1) urine positive for illicit drugs and 2) inappropriate urine screen.

The research team noted that there was some overlap between this category and the DSM OUD criteria. For example, finding illicit drugs and having discordant urine drug screen results may fit within the a priori DSM-5 OUD criteria. This theme, however, was broader than the DSM-5 criteria and included other quotes such as: “[patients] who refuse to provide a urine drug screen,” “non-adherence to [drug] testing,” “inconsistent urine or serum drug screens,” and “markedly inappropriate number of pills at pill count visit.”

Discussion

Our findings suggest that providers who prescribe LTOT are presented with a variety of concerning behaviors, many of which they identified in our survey as being especially common or challenging in their practice experience. This study is the first of its kind to generate a comprehensive list of such behaviors directly from front-line providers with expertise in LTOT, and to sort such behaviors into themes for further investigation.

A key finding of our study was that while some of these behaviors clearly fit into DSM-5 criteria for opioid use disorder, other behaviors did not (“gray zone behaviors”). The DSM requires that two or more of the DSM-5 criteria are met during a 12-month period. We assert that when a provider identifies behaviors that we mapped to one of the DSM-5 criteria (e.g., using more opioid than prescribed, anger or aggression), these can be “counted” to make a diagnosis of OUD. In these situations, providers should follow evidence-based methods for treatment of OUD (e.g., methadone, buprenorphine). Prior research refers to patients whose behaviors are not easily identifiable as “clearly addicted” or “clearly not addicted” as “gray zone patients.” We felt this concept, when applied to behaviors that fall outside of clearly defined criteria for OUD, is useful in describing the “gray zone behaviors” our Delphi participants articulated as common or challenging (Ballantyne, 2015). When gray zone behaviors such as changing from pick-up to mail prescriptions, lying, or actions that raise suspicion of faking or exaggerating pain arise which do not fit neatly into the DSM criteria, the best course of action is less clear. Do these behaviors suggest an OUD that has not fully presented, a safety concern related to opioids, or something else?

When applying DSM-5 criteria for OUD to concerning behaviors among individuals on LTOT, a key consideration is the source of the substance being misused. The DSM criteria

for OUD may be easier to recognize if the opioid is obtained through illicit rather than medical channels. Behaviors that may typically be seen by the person providing the patient's source of illicit opioids and overlooked by medical providers may now be seen by the medical provider. We speculate that this may be the case, for example, for behaviors like deception, which are not typically part of a provider-patient interaction.

Regardless of whether the behavior fits into the DSM criteria, it is important to emphasize that each behavior has its own differential diagnosis. This study placed behaviors within themes, with the caveat that it is critical for the provider to further explore each behavior's cause when possible. Taking more opioids than prescribed is certainly concerning for, but not pathognomonic of, the DSM overuse criteria. Other possible explanations include poor health literacy/numeracy, worsening pain due to acute injury, or unaddressed depression. Even if after further exploration the behavior does not fall within an OUD diagnostic criterion, a separate determination regarding the safety of opioid continuation must be made. The results presented here do not include the subsequent rounds of our Delphi Study, which explore key decisions with regard to management of these behaviors. Given the breadth of concerning behaviors presented by our participants it may be vital to determine the degree to which OUD criteria fit the concerning behaviors present in a clinical setting for patients prescribed LTOT.

For individuals on LTOT, it is possible that gray zone behaviors should be considered in combination with DSM-5 criteria when an OUD diagnosis is made in a patient on LTOT. This would require a major shift in thinking among experts in the field about the meaning of OUD in patients on LTOT. Given the commonness of LTOT, the increased efforts to integrate OUD treatment into primary care, and the seriousness of gray zone behaviors, such a discussion seems prudent and timely.

This study has limitations. Principally, participants were asked to list common and/or challenging behaviors in a survey format. This did not allow for investigators to clarify the meaning of such responses directly with the participants and as such, investigators had to rely on their own interpretation of the behaviors listed. It is possible that the investigators may have misinterpreted some participants' meanings. It is also possible that some of the behaviors listed could be categorized differently given more context for the behavior. Finally, we utilized a convenience sample of self-described pain experts. Although they stated that they met our criteria, it is possible that this convenience sample is not representative of pain experts in primary care. Relatedly, although we attempted to determine the difference between OUD/addiction and non-addiction related problematic behaviors in the use of LTOT (for example, pain behaviors) we did not assess for depth or breadth of the participant's training in addiction medicine.

Conclusion

In sum, while some previous studies have listed these common and concerning behaviors, these studies have not systematically identified and categorized these behaviors. Guidelines, including the CDC Guideline for Prescribing Opioids for Chronic Pain ("CDC Guideline"[1]), recommend implementation of risk mitigation strategies such as urine drug testing and

checking state prescription drug monitoring programs to uncover such behaviors. However, they do not provide additional guidance on management of the wide variety of common and concerning behaviors. Future research should explore how these behaviors can best be assessed and managed in a primary care setting. This could include studies that assess the natural history of these symptoms, their differential diagnosis, and any eventual diagnosis (e.g., opioid use disorder). The categorization of behaviors presented here could also be used in prospective studies to investigate management approaches (e.g., multidisciplinary interventions, pharmacologic strategies such as buprenorphine/naloxone).

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements

The authors would like to acknowledge the contributions early in the project of Shalini Saini and Jamie Pomeranz, both of whom contributed to survey design and methodological design respectively.

Funding: Three authors were supported by NIH career development awards awarded by the National Institute of Mental Health (K23MH104073 [JSM]) and the National Institute on Drug Abuse (K23DA027719 [JLS] and K12DA033312 [EJE]).

References

Ballantyne JC. Opioid Therapy for Chronic Pain. Phys Med Rehabil Clin N Am. 2015; 26: 201–218. [PubMed: 25952061]

Current Opioid Misuse Measure: https://www.opioidprescribing.com/documents/09-comm-inflexxion.pdf.

Dobscha SK, Corson K, Flores JA, Tansill EC, Gerrity MS. Veterans affairs primary care clinicians' attitudes toward chronic pain and correlates of opioid prescribing rates. Pain Med. 2008;9(5):564–71. [PubMed: 18777608]

Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain - United States, 2016. MMWR Recomm Rep. 2016;65(1):1–49.

Guy GP, Zhang K, Bohm MK, Losby J, Lewis B, Young R, Murphy LB, Dowell D. Vital signs: Changes in opioid prescribing in the United States, 2006–2015. MMWR Recomm Rep. 2017; 66(26):697–704.

IMS's National Prescription Audit (NPA) & Vector One ®: National (VONA). Presented in this presentation by Nora Volkow to Congress: https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/prescription-opioid-heroin-abuse

Jamison RN, Sheehan KA, Scanlan E, Matthews M, Ross EL. Beliefs and attitudes about opioid prescribing and chronic pain management: survey of primary care providers. J Opioid Manag. 2014;10(6):375–82. [PubMed: 25531955]

Lum PJ, Little S, Botsko M, Hersh D, Thawley RE, Egan JE, et al. Opioid-prescribing practices and provider confidence recognizing opioid analgesic abuse in HIV primary care settings. J Acquir Immune Defic Syndr. 2011;56 Suppl 1:S91–7. [PubMed: 21317601]

Meltzer EC, Rybin D, Meshesha LZ, Saitz R, Samet JH, Rubens SL, et al. Aberrant drug-related behaviors: unsystematic documentation does not identify prescription drug use disorder. Pain Med. 2012;13(11):1436–43. [PubMed: 23057631]

Merlin JS, Turan JM, Herbey I, Westfall AO, Starrels JL, Kertesz SG, et al. Aberrant drug-related behaviors: a qualitative analysis of medical record documentation in patients referred to an HIV/chronic pain clinic. Pain Med. 2014;15(10):1724–33. [PubMed: 25138608]

Merlin JS, Young SR, Azari S, Becker W, Liebschutz J, Pomeranz J et al. (2016). Management of problematic behaviors in individuals on long-term opioid therapy: Protocol of a Delphi study. BMJ Open, 6–5.

Merlin JS, Young SR, Starrels JL, Azari S, Edelman EJ, Pomeranz J, et al. (2017). Managing Concerning Behaviors in Patients Prescribed Opioids for Chronic Pain: A Delphi Study. Journal of General Internal Medicine.

Saldana J The Coding Manual for Qualitative Researchers (2nd ed). Los Angeles: SAGE; 2013.

U.S. Department of Health and Human Services (HHS), Office of the Surgeon General, Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC: HHS, 11 2016.

Vowles KE, McEntee ML, Julnes PS, Frohe T, Ney JP, van der Goes DN. Rates of opioid misuse, abuse, and addic-tion in chronic pain: a systematic review and data synthesis. Pain. 2015;156(4):569–76. [PubMed: 25785523]

Table 1:

Demographic data from participants (n = 42)

Characteristic	Value, frequency (unless otherwise noted)
Female gender	22 (52%)
Age (mean)	48 (SD 11.6)
Race	African American/Black: 2 (5%) White: 35 (83%) Asian: 3 (7%) American Indian/Native American: 1 (2%) Prefer not to answer: 1 (2%)
Degree	MD/DO: 32 (76%) NP: 7 (17%) CNS: 1 (2%) RN: 1 (2%) PharmD: 1 (2%)
Residency (only for MD or DO)	Internal Medicine: 27 Psychiatry: 1 Anesthesiology: 1 Physical Medicine and Rehabilitation: 3 Neurology: 3
Position	Instructor: 3 (7%) Assistant Professor: 15 (36%) Associate Professor: 6 (14%) Professor: 7 (17%) Other/Clinician: 1 (2%) Other/Volunteer: 1 (2%) Other/Courtesy Faculty Member: 1 (2%) Not Applicable/Not in Academic Position: 8 (19%)
Geographic location (in United States)	Northeast: 13 (31%) Midwest: 6 (14%) South: 13 (31%) West: 10 (24%)
Clinical settings (not mutually exclusive)	Academic primary care: 17 (40%) Academic specialty care: 8 (19%) Community primary care: 4 (10%) Community specialty care: 3 (7%) VA: 20 (48%)

Table 2:

Coding scheme

Behaviors that mapped onto DSM-5 criteria for Opioid Use Disorder

- Taking the opioid in larger amounts and for longer than intended
  - Asking for increase in opioid dose
  - Using more opioid (medication) than prescribed
  - Overdosing
  - Receiving medication from others
  - Taking opioids for symptoms other than pain
  - Taking non-prescribed opioids
  - Hoarding
  - Inaccurate pill count
  - Continuing meds even when pain is stable
- Spending a lot of time in activities necessary to obtain the opioid, use the opioid, or recover from its effects
  - Altering police reports
  - Altering prescriptions
  - Forging prescriptions
  - Bringing someone to ask for dose increase
  - Using multiple pharmacies
  - Multiple prescribers
  - Request to change providers
  - ER visits
  - Patient rep used to ask for opioids
  - Sending someone else to pick up prescriptions
- Recurrent opioid use resulting in a failure to fulfill major obligations at work, school, or home
  - Missing appointments
- Continued use despite persistent or recurring social or interpersonal problems caused or exacerbated by opioid use
  - Fired by pain teams
  - Interpersonal problems
  - Motor vehicle crashes
  - Arrests or legal issues
  - Anger or aggression
- Recurrent opioid use in situations where it is physically hazardous
  - Motor vehicle crashes
  - Falls
- Continued opioid use despite having persistent or recurrent physical or psychological problem that is likely to have been caused by or exacerbated by the substance
  - Oversedation
  - Overdosing
  - Slurred speech
  - Psychic effects of meds reported
  - Unwillingness to explore other medications despite adverse effects of current medication
  - Side effects unmanageable

  - Motor vehicle crashes
  - Falls
  - Pain uncontrolled or unmanageable
- DSM criteria: withdrawal
  - Signs of withdrawal
- DSM criteria: tolerance
  - Tolerance

Behaviors that suggest deception

- Altering police reports
- Altered urine
- Diversion
- Refusal or resistance to bring pills for pill count
- Changing from pick up to mail prescriptions
- Forging prescriptions
- Lying
- Profile picture removed
- Using multiple pharmacies
- Suspicion for faking or exaggerating pain
- Altering prescriptions
- Requesting refills after hours
- Attends drop-in clinic (not follow up) for prescription refill
- Allergies to multiple opioids
- Arriving late OR leaving early for appointments
- Bringing someone else to ask for dose increase
- Pain behaviors
- Sending someone else to pick up prescriptions
- Missing appointments

Signs of diversion

- Altering police reports
- Altering prescriptions
- Arrests or legal issues
- Buying opioids from street or non-medical avenues
- Diversion
- Forging prescriptions
- Police report problems
- Selling prescriptions
- Stealing
- Lost or stolen meds
- Sharing medications

Non-Adherence to treatment plan

- Non-compliance with urine drug test
- Refusal or resistance to bring pills for pill count

- Altered urine
- Inaccurate pill count
- Inappropriate serum drug test
- Inappropriate urine screen
- Urine drug screen negative for medication prescribed
- Urine drug screen positive for substances not prescribed
  - Urine positive for illicit drugs
  - Urine positive for prescription drugs not prescribed
  - Positive for cocaine
  - Positive for marijuana