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## Prescription Opioid Abuse: Challenges and Opportunities for Payers

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### Abstract

**Objective**—Prescription opioid abuse and addiction are serious problems with growing societal and medical costs, resulting in billions of dollars of excess costs to private and governmental health insurers annually. Though difficult to accurately assess, prescription opioid abuse also leads to increased insurance costs in the form of property and liability claims, and costs to state and local governments for judicial, emergency, and social services. This manuscript's objective is to provide payers with strategies to control these costs, while supporting safe use of prescription opioid medications for patients with chronic pain.

**Method**—A Tufts Health Care Institute Program on Opioid Risk Management meeting was convened in June 2010 with private and public payer representatives, public health and law enforcement officials, pain specialists, and other stakeholders to present research, and develop recommendations on solutions that payers might implement to combat this problem.

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**Results**—While protecting access to prescription opioids for patients with pain, private and public payers can implement strategies to mitigate financial risks associated with opioid abuse, using internal strategies, such as formulary controls, claims data surveillance, and claims matching; and external policies and procedures that support and educate physicians on reducing opioid risks among patients with chronic pain.

**Conclusion**—Reimbursement policies, incentives, and health technology systems that encourage physicians to use universal precautions, to consult prescription monitoring program (PMP) data, and to implement Screening, Brief Intervention, and Referral to Treatment protocols, have a high potential to reduce insurer risks while addressing a serious public health problem.

### Keywords

opioid abuse; opioid addiction; substance abuse; reimbursement; payer

## Introduction

Access to prescription opioid (RxO) medications is essential to the care and daily function of millions of patients who live with constant pain. The use of prescription opioids has increased tremendously in the past decade (from 174 million in 2000 to 257 million in 2009) (1) due to the widespread availability and variety of prescription opioids products, and changes in treatment paradigms. While most patients use these medications appropriately, some do not. RxO misuse, abuse, addiction, overdose, and other health and social consequences of inappropriate RxO use are taking a rapidly growing toll on individuals and institutions in the US. It is estimated that 2.2 to 2.4 million individuals initiate non-medical use of RxOs in the US each year (2, 3), and non-medical RxO use now exceeds use of many conventional street drugs, including cocaine and heroin (3, 4). Overdose deaths from prescription drugs have exceeded those from street drugs since 2002 (5, 6), and have surpassed traffic accidents as a cause of accidental death (7). In 2007, over 850,000 of 1.9 million emergency room visits associated with drug abuse or addiction involved non-medical use of pharmaceuticals, and over one third of these involved RxOs (8).

Much of the financial cost of RxO abuse, addiction, and associated health consequences is borne by private and public health insurers. Individuals addicted to RxOs, as well as those who sell them, obtain them by diverting prescriptions, frequently paid for by insurers or government programs (3). In addition to the costs of drugs themselves, individuals who do not adhere to opioid treatment (likely due to abuse or addiction) incur higher total healthcare costs than adherent patients (9), probably due to the serious health consequences of opioid abuse and addiction. Overall, the medical and prescription costs associated with opioid addiction and diversion have been estimated at \$72.5 billion annually for private and public healthcare payers (10-13). Reports from the Government Accountability Office (GAO) on RxO fraud and abuse in Medicaid (14) and Medicare Part D (15) have documented the substantial size of this problem and recommended solutions; yet it does not appear that such recommendations have been adopted among public or private payers.

A Tufts Health Care Institute (THCI) Program on Opioid Risk Management summit meeting was convened in June 2010 to bring together various stakeholders to present their perspectives and research, to raise awareness of the complex issues involved, and to consider potential solutions that healthcare payers might implement to combat this difficult and costly problem.

## Defining the Scope of the Problem

Prescription drug costs represent about 10% of US healthcare spending, and the share of that cost that is borne by healthcare payers has increased significantly in recent years (16). In 1990, prescription drug costs were about \$40 billion, with 56% paid directly by consumers, and 26% paid by private insurers (17). In 2006, this had risen to \$216.7 billion a year, with 22% paid by consumers, and 44% by private insurers. During the same period, the government share of prescription drug costs rose from 18% to 34% (17).

Prescriptions for controlled substances represent a significant proportion of the rising costs for health insurers, reflecting an increase in the therapeutic use of opioids to manage chronic pain (18). Total opioid prescriptions rose over 200% between 1992 and 2002, with hydrocodone and oxycodone posting nearly 400% increases (19, 20). Most patients who seek RxOs are looking for pain relief, but some obtain opioids for pleasure seeking or financial gain. Moreover, some individuals are initially prescribed opioids for pain but become addicted and need larger quantities of opioids because of ever increasing tolerance. Some individuals visit multiple physicians without the others' knowledge, a practice known as "doctor shopping," or fill prescriptions at multiple pharmacies, making them more difficult to track. These prescriptions may be used by addicted individuals themselves, diverted to family members or friends, or sold on the street. Physicians, pharmacists, and clinics may also engage in fraudulent activities, selling prescriptions or medications to non-legitimate patients, while billing the costs to private insurers or the government (21). Such activities can be quite costly. A review of prescription data from Medicaid in Massachusetts (MassHealth) found that the top 50 members with questionable behaviors suggestive of abuse and diversion cost the program \$161,000 in aggregate for controlled substance prescriptions in 2009, with total healthcare costs averaging \$72,000 for each member. This led the agency to implement treatment, formulary, data matching, lock-in and other controls detailed in this document.

Owing to these measures, MassHealth has experienced a significant reduction in cost and potential/probable program abuse.

RxO abuse is also thought to have a large impact on other types of insurers (13). Automobile, property, and workers compensation insurers pay both directly and indirectly for accidents, theft, property damage, and workers compensation claims from intoxicated or addicted individuals. In 2009, an estimated 10.5 million people, or 4.2% of the population aged 12 or older, reported drugged driving (3). The rate was highest among young adults aged 18 to 25 (12.8%).

Opioid abuse, addiction and diversion also have important costs to the public sector, at local, state, and federal levels (22, 23). Locally, there are substantial costs to law enforcement agencies, court systems, and emergency service providers (21, 24-26). Direct costs are incurred for responses to fraud, theft, or illegal actions by individuals, as well as responses to injury and rescue calls. Costs for state and local governments include court systems, departments of correction, drug prevention and rehabilitation programs, and other public services (24, 26, 27). Many individuals with pain or addiction to RxOs are unable to work, increasing costs for federal or state income assistance and support services for dependents (27).

Individual practitioners, many of whom received little or no training in pain management in medical school, have become reluctant to prescribe opioids and manage their consequences (20, 28-31). This situation creates a two-sided problem: on one side, the potential for underutilization of opioids where appropriate, leaving pain untreated, and on the other side,

the potential failure to monitor, detect, and proactively manage harmful consequences of opioid use.

## **Risk Management Solutions for Payers**

Private and public healthcare payers can consider a wide range of internal and external procedures and policies, to lower financial risks associated with RxO abuse. They can establish and maintain internal procedures, such as claims reviews, claims matching, and formulary controls, that are likely to help identify individuals who abuse RxOs and reduce inappropriate prescribing. They can also establish external policies that promote and support appropriate prescribing behavior by physicians and other healthcare providers. The overarching goals of these strategies should be to minimize RxO abuse while ensuring that legitimate patients with pain have access to these medications, that patients with addiction receive appropriate treatment, and that the privacy of all patients remains protected. In addition, policies should ensure that these measures do not increase administrative burdens on prescribers.

## **Internal Strategies for Risk Management**

### **Pharmacy and prescriber controls**

A number of payers have already implemented processes that can help limit abuse of RxOs. Formulary controls that limit reimbursement can help ensure that higher risk opioids are not prescribed unless the risks outweigh the benefits, and that appropriate monitoring is implemented. Claims review procedures can be designed to question potentially inappropriate prescriptions. Several studies have shown that individuals at high risk for RxO fraud or abuse can be identified using claims data or state PMP data (32, 33). Individuals who are suspected of doctor shopping can be “locked in” to the use of a single pharmacy and/or single prescriber to minimize inappropriate or fraudulent prescriptions (34). For example, Oklahoma’s SoonerCare pharmacy lock-in program showed reductions in RxO use, visits to multiple pharmacies and physicians, and emergency department visits, with estimated cost savings of greater than \$31,500 for 52 members after 12 months (35, 36). Such interventions can include appropriate referral of patients to pain management specialists or addiction treatment services if necessary.

### **Promoting the use of opioid formulations that potentially minimize abuse**

Individuals who abuse RxOs often do so by crushing and injecting, snorting, or chewing oral formulations. Several opioid formulations have been designed to prevent or reduce these forms of abuse, including two that have been approved by the US Food and Drug Administration (4, 37, 38), although the abuse deterrence of these formulations is not supported by claims in the label. Because approval of these formulations is recent, data regarding their potential benefits are not available yet. A budget impact model to quantify the potential cost savings associated with a hypothetical opioid formulation designed to resist or deter common methods of extraction estimated potential cost savings to third party payers at 0.6 to 1.6 billion dollars per year (11).

### **Surveillance of claims data**

Prescription claims data can be reviewed for overuse of RxOs, including use of multiple prescribers, multiple pharmacies, and/or early refills (33, 39). MassHealth, for example, reviews prescriptions for controlled substances to identify cases of inappropriate prescribing, including a review of clinical outcomes and medically appropriate use [GG, personal communication]. A few companies have instituted procedures for matching prescription, medical, behavioral and substance abuse claims that can identify patterns or “red flags”

suggestive of abuse or fraud. At Wellpoint, a private health benefit company, a comprehensive internal mechanism has been developed that proactively identifies members suspected of inappropriate use of pharmacy or medical benefits. Once identified, each case is carefully researched, the member and the healthcare provider involved are contacted, and interventions can range from provider and patient education, to addiction treatment services, to involvement of law enforcement if necessary.

Claims data can also help identify individuals at high risk for opioid abuse. The TROUP study, a large observational study of claims data, identified a number of factors that were associated with a high risk of opioid abuse, including younger age, back pain, and multiple pain complaints (40). Mental health and substance use disorders have also been shown to be strongly associated with increased risks of opioid abuse or addiction (41, 42).

Claims matching can be difficult to implement because many claims databases do not interface with one another. Thus payers should develop procedures for handling potential fraud cases that are effective but still allow for individualized consideration of each case, including clinical oversight to ensure that patients and providers are not penalized for appropriate medical uses of opioids (39). It is also important that controls are in place to protect patient privacy where needed.

The GAO in its 2009 report on fraud and abuse in the Medicaid system recommended that, at the time of dispensing an opioid analgesic at the pharmacy, a fraud and abuse screen be automatically conducted, including checks of PMP data, validity of Drug Enforcement Administration (DEA) registrations of prescriber and pharmacist, vital status registries to ensure that both prescriber and patient were alive, and federal debarment and exclusion databases (Table I). While such an intervention would appear to be relatively inexpensive, minimally burdensome, and result in substantial return on investment, it does not appear to have been implemented. Requiring the use of tamper resistant prescription pads, another fraud-reduction approach, has recently been implemented by Medicaid in New York State and has led to dramatic reductions in money spent on fraudulent prescriptions (43). This measure could be expanded to other payers.

[Table I: GAO Recommended Measures for the Prevention and Detection of Fraud Related to RxOs (14)]

### **Cooperation and data sharing with other types of insurance providers**

Automobile, property, and workers compensation insurers have a wealth of data on claims information involving individuals who have incurred damage and liability losses, some of whom abuse RxOs. The property/casualty insurance industry maintains common databases, but currently such databases are not linked to databases of health insurance claims or prescriptions. Future industry standards could be developed that would allow not only cross-industry data matching, but also integration with public sector databases, facilitating identification of abuse, addiction, and fraud. Implemented with appropriate privacy controls, such efforts would reduce costs, benefitting both private and public payers as well as patients who might be identified earlier as in need of addiction treatment services.

## **Encouraging Use of Risk Management Strategies among Healthcare Providers**

### **Guidelines and universal precautions**

The most common source of abused RxOs is, directly or indirectly, by prescription (3). Thus, much of the responsibility for safe prescribing rests upon clinicians, including primary

care practitioners, pain management specialists, dentists, and others. By accepting the fact that any patient could potentially abuse RxOs, clinicians can adopt tools and processes, termed a “universal precautions” approach (44), which aim to mitigate misuse, abuse, and diversion of RxOs by patients. These universal precautions include careful screening and risk stratification of patients; effective patient education and counseling that maximizes patient involvement in treatment; individualized treatment that is periodically reassessed, using urine drug testing, pill counts, or other measures if deemed necessary; and careful documentation of the pain management process (see Table II) (44, 45). Guidelines for managing risk in opioid prescribing are available from various medical societies (46-49). Payers, in turn, can limit their own risk by promoting and supporting use of these precautions among healthcare providers in their systems.

[Table II: Universal precautions for using RxOs in non-malignant pain patients, adapted from (45)]

### **Patient screening**

Surveys of physician attitudes about RxOs have shown that, while many practitioners recognize the effectiveness of these medications, they are justifiably concerned about creating addiction in their patients (28, 29). A number of studies have found that previous substance abuse, including alcohol abuse, represents a strong, overlapping risk factor for abuse of prescription medications (32, 50). A wide range of other risk factors for opioid abuse have been identified, including age, gender, family history of substance abuse, presence of a major psychiatric disorder, a history of aberrant behaviors, and others (32, 41, 51). Payers can promote patient screening by encouraging practitioners to use some of the many screening tools that are available for this purpose, and reimbursing for the time involved. Medicaid (“H”), Medicare (“G”), and Current Procedural Terminology codes designed specifically to reimburse for substance abuse screening and brief interventions became effective in 2008 (52). Detection of these risks in many patients through automatable processes at the payer level can provide prescribers with useful risk information on their patients without increasing the prescriber’s burden (39).

### **Screening, brief intervention and referral to treatment (SBIRT)**

Considerable research has been devoted to Screening, Brief Intervention, and Referral to Treatment (SBIRT), a comprehensive, integrated, public health approach to identifying those who have or are at risk for problematic substance abuse or substance abuse disorders, and providing early intervention. SBIRT is designed to be implemented in primary care centers, hospital emergency rooms, trauma centers, and other community settings where substance abusers often first interact with the healthcare system. Patients are screened for substance abuse problems, then provided with a brief intervention or treatment (for low to moderate risk cases) or referred to specialists (for high risk cases). Use of SBIRT is associated with reduced substance abuse, fewer emergency room visits, and fewer hospital days, and several large studies have suggested that it is cost effective for payers (53-57). Payers can support the use of SBIRT by aligning their reimbursement and training policies with the services required to follow this method.

### **Clinician support**

The increased use of opioid analgesics and concomitant rise in abuse and addiction underlie another issue that may be amenable to payer support: case management. In particular, offering support to primary care physicians and specialists may help reduce clinical dependence on opioid use for persistent pain. Programs including medication review and promotion of nonpharmacologic therapies (e.g., acupuncture, massage, health/wellness

classes) might shift the focus away from simply prescribing opioids as a means of pain relief (58).

### **Use of PMPs**

At least 40 states now have operational PMPs or have enacted PMP legislation, covering 87% of the US population (59, 60), and the White House Plan has committed federal resources to expanding them (1). PMPs collect data from pharmacies on controlled substance prescriptions, including information on who has been prescribed what substance and by whom. This data can be provided to prescribers, pharmacists, law enforcement officials, professional licensing boards, public health researchers, and others in order to identify individuals engaged in prescription drug diversion and to perform research in this area. Even early versions of today's PMPs have been shown to reduce prescription drug diversion; for example, implementation of a PMP in New York State in 1978 reduced the percentage of forged or counterfeit schedule II prescriptions from 12% to less than 1% within 5 years (61-65). Payers can promote the use of this important resource by strongly encouraging, facilitating through technology, or even requiring prescribers to check the PMP if available, before prescribing controlled substances. In the future, they could make it easier for time-challenged physicians to use this data by linking the PMP to their electronic prescribing tools, or to pharmacy computers at the time of dispensing. Payers in the public sector can also use PMP data to investigate whether clinicians' prescribing patterns meet the standard of care in a given community, and to identify geographic areas where doctor shopping and adverse outcomes are higher than average and warrant closer surveillance (33, 66).

### **Patient education and communication**

Current guidelines recommend practices to engage the patient receiving RxOs, as part of the risk management process (47), including patient counseling, informed consent, and treatment agreements that outline patient expectations and responsibilities regarding opioid therapy (45). Poor patient knowledge and lack of communication between patient and clinicians have been recognized as barriers to effective RxO utilization (67). Patient education is time consuming. Supportive reimbursement policies could play a role in facilitating the development of time-efficient and effective approaches to patient education.

To control costs, clinicians trained in pain management (69) can provide education, support, guidance and monitoring of patients on opioid analgesics. A model is diabetes educators who provide medication education and monitor for compliance, side effects, and tolerability in individual or small support group settings. This approach was shown to improve disease status, increase cost-effectiveness, and reduce lengths of hospital stays (69). Following this model has the potential to improve communication and patient awareness of risks and benefits of pain therapy. A recent Veterans Administration study on the role of nurses in pain management found that nurses with more experience and higher levels of self-efficacy and confidence were more likely to address patient fears of addiction, supporting the use of trained nurses to counsel patients (70). Payers could be instrumental in enhancing nurse training in RxO abuse and addiction.

### **Urine drug monitoring (UDM)**

UDM includes testing for illicit drugs, confirming use of the prescribed RxO, and detecting non-prescribed medications and controlled substance with potentially dangerous interaction with RxOs. UDM is considered as an objective indicator of drug abuse or diversion that complements patient self-report, physician assessment, and behavioral monitoring (45, 47, 71). To this end, many organizations recommend UDM in their guidelines for RxO management in patients with chronic pain, though the effectiveness of UDM is not fully

proven. It has been estimated that clinical methods alone (without laboratory corroboration) miss about half of patients who are misusing opioids (72). A review of studies using UDM in 2007-2009 showed that at least 11% of patients with chronic pain were misusing opioids, and at least 12% were not adhering to a prescribed medication (73-77). However, no high quality studies have examined whether UDM has an impact on opioid abuse, addiction and/or overdoses. A recent systematic review found only 8 fair to poor quality studies of UDM that examined these outcomes, and these studies showed a modest 7 to 23% reduction in abuse in the context of multi-component monitoring programs (78). Payers could set standards for use (yet to be determined) of UDM in their reimbursement policies. Recommendations regarding who to test, how often to test, and what types of tests to use could be modeled on some of the most recent consensus recommendations (79). It is also likely that UDM will need to be limited to specific patients and circumstances, thus payers will need to be flexible in their policies. It remains to be seen how this important tool will be used most effectively.

### Treating RxO addiction

When patients test positive for an illicit drug or an unexpected opioid, health insurers should support clinicians in providing affordable access to substance abuse treatment services to supplement medical care. While discharging patients from practice is sometimes necessary, addicted patients who are discharged will tend to seek prescription medications in another practice or in Emergency Rooms, a behavior that simply moves the problem but does not address it. Opioid agonist treatment, such as with methadone or buprenorphine, is effective at treating opioids dependence and is increasingly utilized for RxO addiction. More research is needed to identify the most effective strategies to prevent and treat addiction to RxOs that is identified during treatment for chronic pain. The National Drug Abuse Treatment Clinical Trials Network recently completed a trial that provides important evidence regarding the length of pharmacotherapy, effects of intensive counseling, and role of chronic pain in modulating the effectiveness of treatment for RxO addiction (80). This was the largest study ever examining treatment for this population, and results are expected soon. Health insurers and government entities have an important role in ensuring access to effective and accessible addiction treatment services.

### Potential barriers to change

There are several potential barriers to implementation of recommendations. Among prescribers, perceived logistical barriers include lack of time, limited ancillary support, lack of appropriate pain management and addiction referral options, limited information on diagnostic workup, and limited insurance coverage for pain management services (40). In primary care settings, financial constraints are of particular concern. Pressure on reimbursement and financial constraints may limit the time and support staff devoted to opioid risk management. Physicians might opt not to treat pain if it is perceived that responsibilities surrounding opioid prescribing are too time-consuming (40, 81). Payers can relieve some of these barriers by increasing reimbursement for pain management services and ancillary support; providing automated risk information, PMP data, urine drug testing results, and claims data for adverse patient outcomes (e.g. emergency department visits) integrated into the patient management workflow; and providing practical training on managing chronic pain, opioids use, and its complications (Table III).

[Table III: Measures That Payers Can Take to Support Prescribers in the Safe, Effective Use of Opioid Medications]



## Conclusion

Many payers in the healthcare industry lack awareness of the huge toll taken by RxO abuse, diversion, and addiction. Although much further research remains to be done, strategies have been identified that public and private payers can use now to manage the risks involved to stem the growing tide of financial losses associated with this serious societal problem.

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### Take-away Points

Many payers in the healthcare industry lack the resources to comprehensively assess the risk of prescription opioid abuse, diversion and addiction on the health of their members and on their corporate margins. Although greater research remains to be performed, strategies have been identified that companies and government agencies can use now to manage the risks involved. It is critically important that payers stay abreast of new developments in this field and implement risk management strategies on an ongoing basis if they are to stem the growing tide of financial losses associated with this serious societal problem.

**Table I**

## GAO Recommended Measures for the Prevention and Detection of Fraud Related to Prescription Opioids

<ul style="list-style-type: none"><li>• Implementation of data sharing and system control measures to identify fraudulent enrollments or claims</li><li>• Screening of prescribers and pharmacies against the federal debarment list</li><li>• Drug utilization reviews to identify over-utilization, drug-drug interaction, or therapeutic duplication</li><li>• Prior authorization for medications considered at high risk of fraud or abuse<ul style="list-style-type: none"><li>• Increased use of state prescription drug monitoring programs</li><li>• Checks of vital records to ensure that the beneficiary is alive</li></ul></li><li>• Increased use of the restricted participant program (pharmacy or health care provider lock-ins)</li><li>• Aggressive investigation and prosecution of individuals involved in fraud</li></ul>
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**Table II**

## The Ten Steps of Universal Precautions in Pain Medicine

- 1 Make a diagnosis with appropriate differential
- 2 Psychological assessment including risk of addictive disorders
- 3 Informed consent
- 4 Treatment agreement
- 5 Pre- and post-intervention assessment of pain level and function
- 6 Appropriate trial of opioid therapy +/- adjunctive medication
- 7 Reassessment of pain score and level of function
- 8 Regularly assess the four "A's" of pain medicine
- 9 Periodically review pain diagnosis and comorbid conditions, including addictive disorders
- 10 Documentation



**Table III****Measures That Payers Can Take to Support Physicians in the Safe, Effective Use of Opioid Medications**

<p><b>Reimbursement</b> for pain management services and ancillary support to allow effective implementation of Universal Precautions, including reimbursement for:</p> <ul style="list-style-type: none"><li>• Time spent on patient education and counseling</li><li>• Urine drug testing and other relevant laboratory tests</li></ul>
<p>Creation of a <b>decision-support</b> infrastructure that includes:</p> <ul style="list-style-type: none"><li>• Automated risk information based on patient records or provider input</li><li>• Ready access to prescription monitoring data</li><li>• Urine drug testing and other relevant test results</li><li>• Claims based evidence for previous adverse outcomes, such as emergency department visits</li><li>• Information on addiction referral options if needed</li></ul>
<p><b>Education and training</b> for the health care team on:</p> <ul style="list-style-type: none"><li>• Effective management of chronic pain</li><li>• Best practices for opioid prescription</li><li>• Identification and management of complications of opioid use</li></ul>