Editor's Note

The year 2020 marks the 25th anniversary of the *Journal of Managed Care & Specialty Pharmacy*. To commemorate this milestone, we are publishing a series of articles that document the changes to the journal and profession over the past 2 and a half decades. Each month we reprint an original article from a previous year, dating back to 1995. The reprinted articles feature topics of significance in our industry. Each reprinted article is accompanied by a contemporary reflection that will consider the historical significance of the topic, as well as the current and future state.

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CONTEMPORARY REFLECTION

Managed Care Pharmacy Research on Inappropriate Opioid Use Interventions

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This month's vintage rerun article, "Direct Costs of Opioid Abuse in an Insured Population in the United States," by White et al. quantified the effect of diagnosed opioid use disorder in a commercially insured population.¹ The study was among the first to measure the costs of diagnosed opioid use disorder, revealing an 8 times higher per-member per-month cost compared with people without opioid use disorder, driven by disproportionately high hospitalization costs. These findings likely piqued the interest of some payers, but it was ahead of its time. White et al.'s article was published in 2005—11 years after Oxycontin was launched but 6 years before the height of opioid prescriptions in 2011.²

Reflecting on this early publication and what we know today about the history of the opioid epidemic, we focused this commentary on what managed care pharmacy has done to curb inappropriate opioid use over the past 15 years. First, we

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describe the studies of managed care programs related to opioids published in the *Journal of Managed Care & Specialty Pharmacy* (JMCP), then we discuss the work of AMCP's Addiction Treatment Advisory Group. While these components provide a

view into the efforts of managed care pharmacy, this should not be interpreted as comprehensive, since unpublished programs and studies published in other journals are not covered.

Abbreviated Systematic Literature Review

We conducted a systematic, yet limited, literature review to identify studies of opioid programs in managed care. Our search was confined to articles published in JMCP between 2005 and 2020. Using the search terms "opioid," "opiate," "medication-assisted treatment," "naloxone," "substance use disorder," and "pain management," we identified 11 studies of opioid programs in managed care.

Prescriber Outreach

The most common opioid program studied was prescriber outreach. First, Midwest Health Plan mailed letters to prescribers

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of patients on a high-dose opioid and either another opioid, a benzodiazepine, or an antidepressant. This 2015 pre-post study showed a 28.1% reduction in the targeted combination therapy and favorable prescribers' perceptions of the intervention.³ In a second similar study (2020), a Medicaid plan faxed information to prescribers about their patients with concurrent use of opioids and benzodiazepines. Resolution of combination therapy was 3.8% higher in the intervention plan relative to a control group of Medicaid plans that did not implement the program.⁴ In a third study (2019), a national commercial plan implemented a controlled substance utilization management program that identified patients with 10 or more controlled substance prescriptions in a 3-month period and mailed patient medication profiles to their prescribers. Relative to a matched control group, average controlled substance prescription counts decreased by 1.1, and the days supply decreased by 21 days in the intervention group.⁵ The final included study (2018) was conducted in response to a planned Oregon Medicaid policy to discontinue coverage of opioids for chronic back and spine pain (>90 days). In response, a managed Medicaid plan initiated a voluntary opioid taper program by sending 2 letters, including tapering resources, to providers of eligible patients. Only 17% of prescribers, representing 19 of 113 eligible patients, responded and agreed to initiate a taper in 6 eligible patients. Of these, 5 patients reduced their opioid dosage during the 3-month study period.⁶

Utilization Management

Utilization management tools were also studied as ways to reduce inappropriate opioid use. First, a managed Medicaid plan implemented a quantity limit on short-acting opioids. This 2017 study evaluated claims 90 days before and after the quantity limit and found a small but statistically significant reduction (0.2 mg) in total morphine equivalents daily. However, there was no change in the use of long-acting opioids or the proportion of patients using more than 120 mg of morphine equivalents daily.⁷ In a second study (2014), a Medicaid plan implemented a prior authorization for high-dose, long-acting opioids and for nonpreferred, long-acting opioids (morphine extended release was considered preferred). The study found that for long-acting opioids the overall number of patients decreased by 17.8% and claims decreased by 4.1%. Results were mixed for average daily dose, which decreased for some agents and increased for others.⁸

Lock-in Programs

Lock-in programs, which require patients to receive all opioid prescriptions from a single or small number of prescribers, were evaluated in 2 Medicaid programs. The first study (2015) restricted a group of 59 patients to 1 prescriber and followed claims data for 3 years. Only 9 patients were still enrolled at 3 years. Of those in the program for the first 6 months (n=40), 31% were stable, defined as having opioid claims

only from their assigned prescriber; received treatment for opioid dependence; and/or decreased or stopped opioid use. Alternatively, 37% were unstable, defined as having submitted claims from different prescribers, or paid cash for opioids. At the end of the study, 7 of the 9 remaining patients were stable.⁹ The second study (2017) evaluated the incremental effect of restricting Medicaid patients who were already limited to 1 pharmacy to the additional restriction of 3 prescribers. There was a significant decrease in the number of prescribers and pharmacies visited and lower use of short-acting opioids, but there was no change in the use of long-acting or any opioid or in the daily morphine dose equivalent.¹⁰

Risk Scoring

Finally, 3 studies were identified that reported the use of risk scores to identify patients at "high risk" for misuse. While none of these studies may be strictly characterized as programs, we included them because they are precursor work used by managed care plans to identify candidates for interventions. In a 2014 study, researchers used an administrative database from a large health system to examine the utility of a risk-scoring model in categorizing patients at low and high risk of opioid-related adverse events in patients receiving opioids after gastrointestinal surgery. The study found that the high-risk group had significantly higher odds of opioid-related adverse drug events and 30-day readmissions, as well as higher hospitalization costs and longer lengths of stay.¹¹ In a 2016 cohort study, researchers applied a previously developed controlled substance score to a commercial population of approximately 11 million members. The score is a measure of high-risk opioid use per the number of controlled substance claims, the number of unique pharmacies and prescribers, and evidence of increased controlled substance use. The study found that the controlled substance score was positively and linearly correlated to hospitalizations, emergency room visits, and total health care costs.¹² A final study (2019) sought to demonstrate that Medicare claims data can be used to identify a population of beneficiaries at high risk for adverse events and quality improvement. The researchers defined people at high risk for an adverse event as anyone taking at least 3 medications, 1 of which was an opioid, anticoagulant, or an antidiabetic agent. They found that 20.7% of the population was at high risk, and the rate of adverse drug events in this population was 46.28 per 1,000 patients.¹³ In all 3 of these studies, the authors concluded that the risk scores may be effective in targeted programs.

AMCP's Addiction Treatment Advisory Group

In September 2014, AMCP hosted a partnership forum "Breaking the Link Between Pain Management and Opioid Use Disorder." The key recommendations from the forum were for AMCP to promote evidence-based clinical guidelines, pain management, and opioid use disorder treatment best practices and to promote a comprehensive, coordinated care approach.¹⁴

Although not an area of focus for the forum, the participants also recommended that AMCP convene a group of experts to address issues surrounding opioid use disorder treatments that are specific to managed care. Accordingly, AMCP formed the Addiction Treatment Advisory Group in 2015, which was composed of 19 leaders from a wide range of organizations.

A key output of the group was the publication of 2 white papers. The first discussed the role of managed care pharmacy in improving access to naloxone, highlighting case studies of 5 organizations showing leadership in naloxone access.¹⁵ The second white paper addressed evidence-based medication use for the medication-assisted treatment of substance use disorder. Specifically, the white paper called for plans to evaluate and update policies, processes, and benefit designs related to substance use disorder based on current evidence and evolving understanding of substance use disorders as chronic health conditions. Also recommended was the enhancement of continuity of care for patients with substance use disorder via active management of transitions between sites of care. Finally, the white paper called for improved health care professional and patient awareness of, and access to, medications used in the treatment of substance use disorder.¹⁶

In addition to the white papers, the Addiction Treatment Advisory Group assisted AMCP staff in providing comments, analysis, and testimony to Congress and other federal and state agencies on proposed regulations and laws associated with opioid use disorder. The group also developed and presented several webinars and educational sessions at AMCP meetings. The follow-along work has been incorporated into other AMCP groups and committees, as there remains a need to collect, catalog, and make available best practices for the safe use of opioids, naloxone coprescribing, and opioid use disorder treatments.

Learnings

Given the breadth of the opioid epidemic, few studies have been published in *JMCP* that evaluated interventions over the past 15 years, and none of the identified studies were interventions related to overdose prevention with naloxone or in medication-assisted treatment of opioid addiction. Of the identified studies, findings varied with significant differences on some endpoints but not others, making it difficult to articulate a solid conclusion. Mixed findings possibly reflect challenges with program evaluation. Notably, it is difficult using data available to managed care organizations (i.e., claims data) to characterize opioid use. This includes the need to make assumptions when distinguishing between appropriate and potentially inappropriate use in the absence of information on treatment rationale and past history. Further, claims data do not capture opioid prescriptions obtained by cash payment or through illicit means. These missing data are an

important limitation in delivering opioid use interventions and in measuring their effects.

The limited number of articles identified and included in this review may also contribute to mixed findings. We did not search the gray literature or include studies published in other journals. However, studies with positive results are generally more likely to be published. Thus, the findings in the articles published in *JMCP* may be indicative, if not underrepresent, challenges in changing opioid prescribing and use behaviors. With this in mind, it is not surprising that prescriber outreach was the most studied intervention. In this type of intervention, the plan gives information to prescribers that they may not otherwise have access to and may be perceived as an effort to facilitate decision making rather than as infringing on the patient-provider relationship. Yet, low provider response, such as in the Oregon Medicaid pilot, can be a significant barrier to the success of provider outreach interventions.⁶ Finally, and despite health plan efforts to reduce long-term and high-dose opioid use, many patients and prescribers are reticent to opioid tapers.^{17,18} Ultimately, however, the best success in reducing inappropriate opioid use is to prevent it in the first place.

The mixed effectiveness of programs in this review highlights the need for continued research, specifically, if the aforementioned challenges can be addressed. Further, many of the published studies are in Medicaid plans, so research in other lines of business is warranted. Lock-in programs were not permitted in Part D plans until 2019, for example, and new research should evaluate their effectiveness. Additionally, as risk scoring becomes more prevalent, research demonstrating the application of these tools in prospective programs is needed.

AMCP has served as an important resource for the managed care pharmacy community about the opioid epidemic through the Addiction Treatment Advisory Group, educational programming, and committee work. AMCP continues to comment on relevant proposed regulations and laws and communicate with its members. AMCP remains committed to collecting and communicating progress towards the calls to action put forth by the advisory group.

Conclusions

Our literature review showed that there is no “magic bullet” program for managed care pharmacy to address inappropriate use of opioids. Just as the origins of the opioid epidemic were complex, multifaceted, and evolved over many years, the solutions will be too. To be a part of the solution, managed care pharmacy must work with partners across and outside of the health care system. They should share what they have learned via research publications or case studies, so others can learn from their work. Perhaps when readers reflect on this article 15 years from now, the opioid epidemic will be a distant memory.

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