

OPIOID USE IN PATIENTS WITH CANCER: DEVELOPING AND IMPLEMENTING AN EVIDENCE-BASED STRATEGY

Summary prepared by the Office of Data Analytics Division of Analytics

Introduction

With the improvements to cancer treatment in recent years, a rising concern has been put on “trading one disease for another”, as patients surviving cancer then develop a substance use disorder stemming from long-term opioid use.¹ The 2016 CDC guidelines for opioid prescribing explicitly exempts patients undergoing active cancer treatments for chronic pain.² Additionally, Kentucky statutes such as 201 KAR 9:260 and the Medicaid Preferred Drug List Clinical Criteria make similar exceptions for cancer patients with regard to opioid supply limitations and prior authorization requirements.³ As a result of this, cancer patients that undergo curative-intent surgeries may be at a higher risk of developing a long-term opioid use disorder compared to non-cancer patients that undergo similar procedures.

Project Methods & Results

Information obtained from Medicaid claims data was used to create a study cohort of adults with an appropriate procedure code that indicated a major or minor colorectal surgery occurred between 2014 and 2019. Beneficiaries were categorized as either cancer or non-cancer based on ICD codes related to colorectal cancer or some other gastrointestinal/colorectal disease. Beneficiaries without an eligible diagnosis code, underwent another surgical procedure within 90-180 days of the procedure, filled any buprenorphine prescription for opioid use disorder within 365 days of the procedure, or were dual eligible were excluded from analysis. Surgeries were further classified as “minor” if the procedure was performed laparoscopically or identified as minor; all other surgeries were considered “major”. If CPT codes were available, procedures were designated as open vs. laparoscopic and colectomy vs. proctectomy.

Rural/urban classification was determined by county RUC codes, with 4-9 indicating “rural.” Information on driving distance (using AHRQ HCUP travel distance guidance⁴), as well as network adequacy requirements per 907 KAR 17:015 was obtained for each beneficiary. Additionally, a beneficiary was marked as part of the expansion program if the index surgery claim indicated so. Medication use was recorded; a script was considered a discharge medication if

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What is Known on This Topic?

Patients with cancer are potentially at a higher risk for developing a long-term opioid use disorder following curative-intent surgeries compared to non-cancer patients receiving the same or similar procedure. Cancer patients are usually excluded from opioid prescribing guidelines, creating a gap in evidence for safe opioid practices.

What Did this Project Do?

This analysis examined persistent opioid use (POU) following colorectal surgery, stratified by cancer status. Additionally, a prescribing protocol for pain management following colorectal surgery was implemented by UK HealthCare in 2016. Rates of POU as well as discharge opioid prescriptions were examined before and after implementation to assess effectiveness.

What Could Medicaid Do with These Conclusions?

Three key takeaways from this analysis are: cancer patients appear more likely to develop POU following colorectal surgery compared to non-cancer patients; roughly 1 out of 4 beneficiaries in the study did not meet the network adequacy requirements for MCOs, which was associated with POU; and the implementation of prescribing protocols by UK HealthCare was associated with stronger reductions in POU as well as opioid prescribing at discharge. Opportunities for improvement include re-evaluating prior authorization criteria, working to reduce travel distance for beneficiaries, and supporting opioid stewardship through protocolized care.

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the prescription claim date was within 2 days following hospital discharge. Chemotherapy treatment was designated as neoadjuvant (additional treatment before primary treatment) or adjuvant (additional treatment following primary treatment) if the claim date was within 180 days prior to or following hospitalization, respectively. Charlson Comorbidity Index (CCI) scores were calculated for each beneficiary, adjusted according to age.

The primary outcome of interest was persistent opioid use, which was defined as any opioid prescription between 90- and 180-days post-discharge. Total encounters and costs were calculated for 30-, 90-, and 180-days post-discharge. This outcome was also used to assess the effectiveness of an analgesic prescribing protocol implemented by UK HealthCare in 2016 by comparing rates of persistent opioid use and discharge opioid prescriptions before and after the protocol went live.

The study found that cancer patients were 1.35 times more likely to develop persistent opioid use following a surgery compared to non-cancer patients, controlling for other variables. Other factors associated with increased odds of persistent opioid use were opioid use prior to admission (within 30 days & 1-12 months prior), travel distance (30-60 miles & > 60 miles) and being identified as male. When considering procedure type, patients undergoing laparoscopic colectomy were more likely to develop persistent opioid use compared to both laparoscopic proctocolectomy and open colectomy. On the other hand, factors associated with lower odds of persistent opioid use included age > 65, FFS as the primary payer, and race other than Black or White.

Variation in persistent opioid use was also examined across different institutional volume levels, determined by the total number of cases each institution saw. While variation remained high in all settings, total variation decreased as institutional volume increased (low-volume institutions experienced 3-5x higher variation compared to high-volume).

Lastly, the institutional annual rate of persistent opioid use for the 2 years prior (2014-2015) to UK HealthCare's prescribing protocol intervention was compared to the 3 years after (2016-2018). While rates decreased overall, the intervention was associated with an additional 6.2% decrease in risk for developing persistent opioid use (8.3% reduction vs. 2.1% reduction). Similarly, when looking at postoperative opioid prescriptions, the intervention was associated with an additional 38.6% decrease (51.5% decrease vs. 12.8% decrease).

Conclusion

This analysis of roughly 2,000 beneficiaries found that cancer patients undergoing colorectal surgery were more likely to develop persistent opioid use compared to non-

cancer patients. Given that most patients were receiving curative surgeries, this is a concerning finding, as the surgery was intended to remove the need for opioids for cancer-related pain. Further study of opioid use and total opioid days across institutions found that variation was higher in low-volume institutions compared to high-volume institutions. Finally, the UK HealthCare protocol that was implemented in 2016 appears to be associated with greater reductions in persistent opioid use, in addition to other environmental changes.

These findings lead to multiple possibilities for improvement regarding care for cancer patients. One consideration would be to re-evaluate prior authorization criteria that are currently in place for cancer patients. For example, the extended 1-year prior authorization for short-acting opioid analgesics could be reconsidered in favor of shorter periods and/or non-opioid treatment plans.

Another risk factor to consider evaluating is travel distance for patients. The MCO network adequacy requirements for urban and rural counties are 30 and 60 miles respectively. However, 1 in 4 beneficiaries from the study cohort did not meet this definition. Given that increased travel distance was associated with a greater risk for opioid use, a more detailed analysis and identification of specific targets for intervention could be considered.

Lastly, UK HealthCare's protocol has provided evidence that certain postoperative pain management guidelines have been an effective means of reducing opioid use and total opioid days. Supporting similar perioperative opioid stewardship initiatives across multiple institutions could lead to better protocols for reducing opioid use and prescribing when not necessary.

References

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