

OPIOID USE BEFORE AND AFTER COMMON ELECTIVE SURGICAL PROCEDURES IN AETNA-INSURED AND MEDICARE POPULATIONS

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BACKGROUND

- Inadequate control of postsurgical pain can prolong recovery and hospital stay and increase risks of complications, readmission, and chronic pain.¹
- Opioids are the current standard of care for postsurgical pain, but they are associated with burdensome and costly adverse events, including nausea, vomiting, constipation, and respiratory depression.²
 - In a large health system, opioid-related adverse events were associated with an 80% increase in hospital length of stay, 71% increase in 30-day readmission rates, and 86% increase in costs.³
- Moreover, high opioid prescribing⁴ is concerning in light of the current opioid epidemic and the increased risk of chronic opioid use that has been demonstrated in surgical patients.⁴
- Real-world evidence from a health plan provides the opportunity to understand the use of opioids across the continuum of care, particularly in surgical patients.

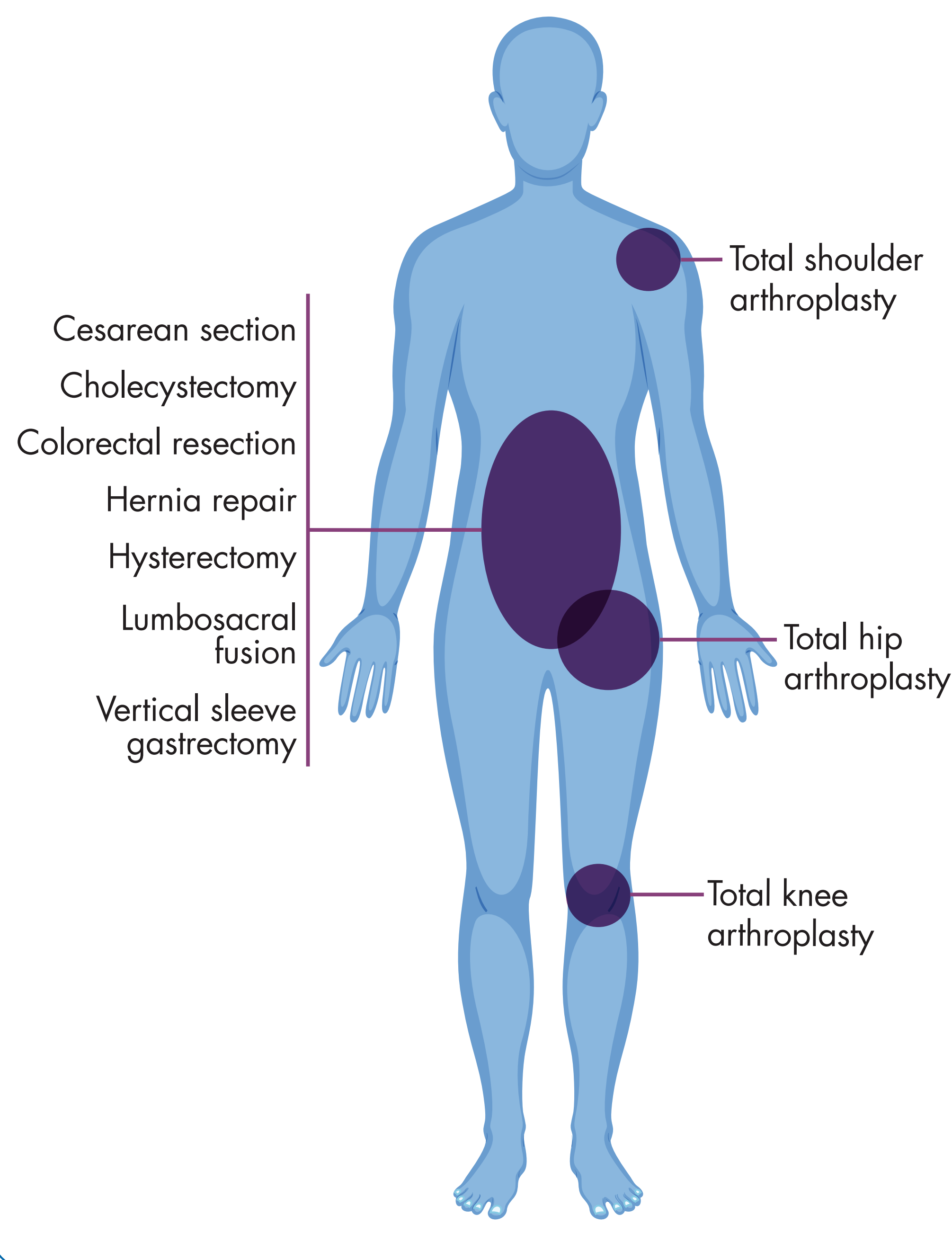
AIM

- To review real-world data on pre- and postsurgical opioid use for 10 common elective surgical procedures

METHODS

- This was a retrospective analysis of medical and pharmacy claims for patients aged 18 years or older in Aetna fully insured commercial health plans or Medicare Advantage plans who underwent 10 common elective surgical procedures (Figure 1) between January 1, 2014, and December 31, 2016.

Figure 1. Elective Surgical Procedures Included in the Analyses



- Insurance coverage was required at least 2 months before and at least 12 months after the date of surgery.
- Patients in hospice care and patients who were part of the Aetna Compassionate Care Program that addresses end-of-life care were excluded.
- Opioid use was determined based on paid medical and pharmacy claims <30 and 30–60 days before the surgery date and <30 and 30–60 days after the surgery date.
- Categorical variables were summarized as counts (%), and percentages were compared using chi-square analysis.

RESULTS

Patients and Surgical Procedures

- A total of 95,125 patients met eligibility criteria; 64,251 (67.5%) had information on the type of postsurgical analgesia used (eg, neuraxial/regional/local analgesia, opioids) and were included in the analyses.
- The most common surgical procedure was cholecystectomy, and the least common procedure was total shoulder arthroplasty (Table 1).
- Mean (SD) age was 52.7 (16.1) years, and 70% were women.

RESULTS (CONT.)

Table 1. Total Number of Patients Undergoing 10 Common Elective Surgical Procedures During the Study Period

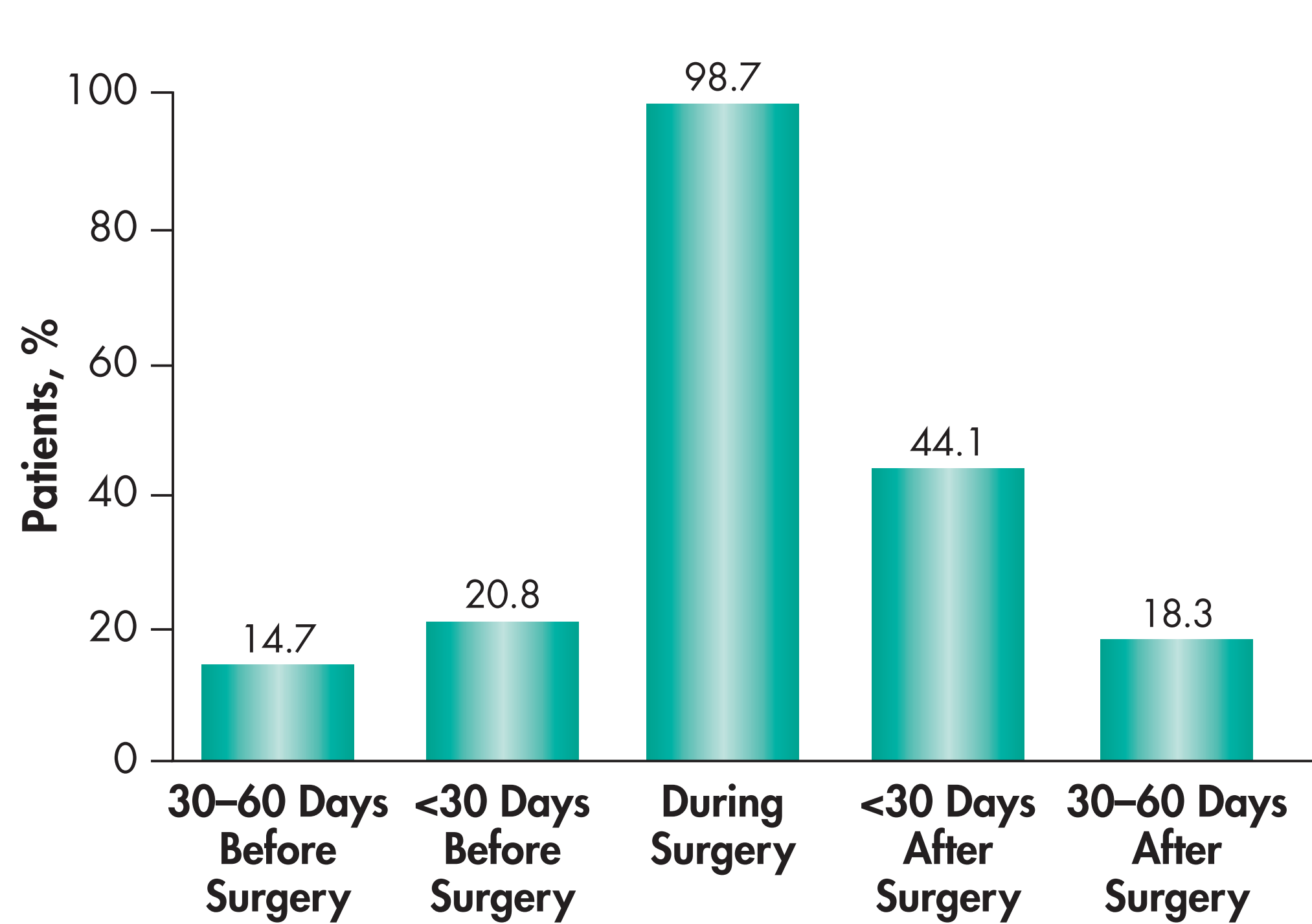
Surgical Procedure	Number of Patients N=64,251*
Cholecystectomy	13,999 (21.8)
Cesarean section	10,569 (16.4)
Total knee arthroplasty	10,341 (16.1)
Hysterectomy	9542 (14.9)
Hernia repair	8996 (14.0)
Total hip arthroplasty	5950 (9.3)
Colorectal resection	4220 (6.6)
Lumbar fusion	3091 (4.8)
Vertical sleeve gastrectomy	1711 (2.7)
Total shoulder arthroplasty	1625 (2.5)

*Sum of patients across procedures is >64,251 because some patients underwent >1 procedure.

Opioid Use

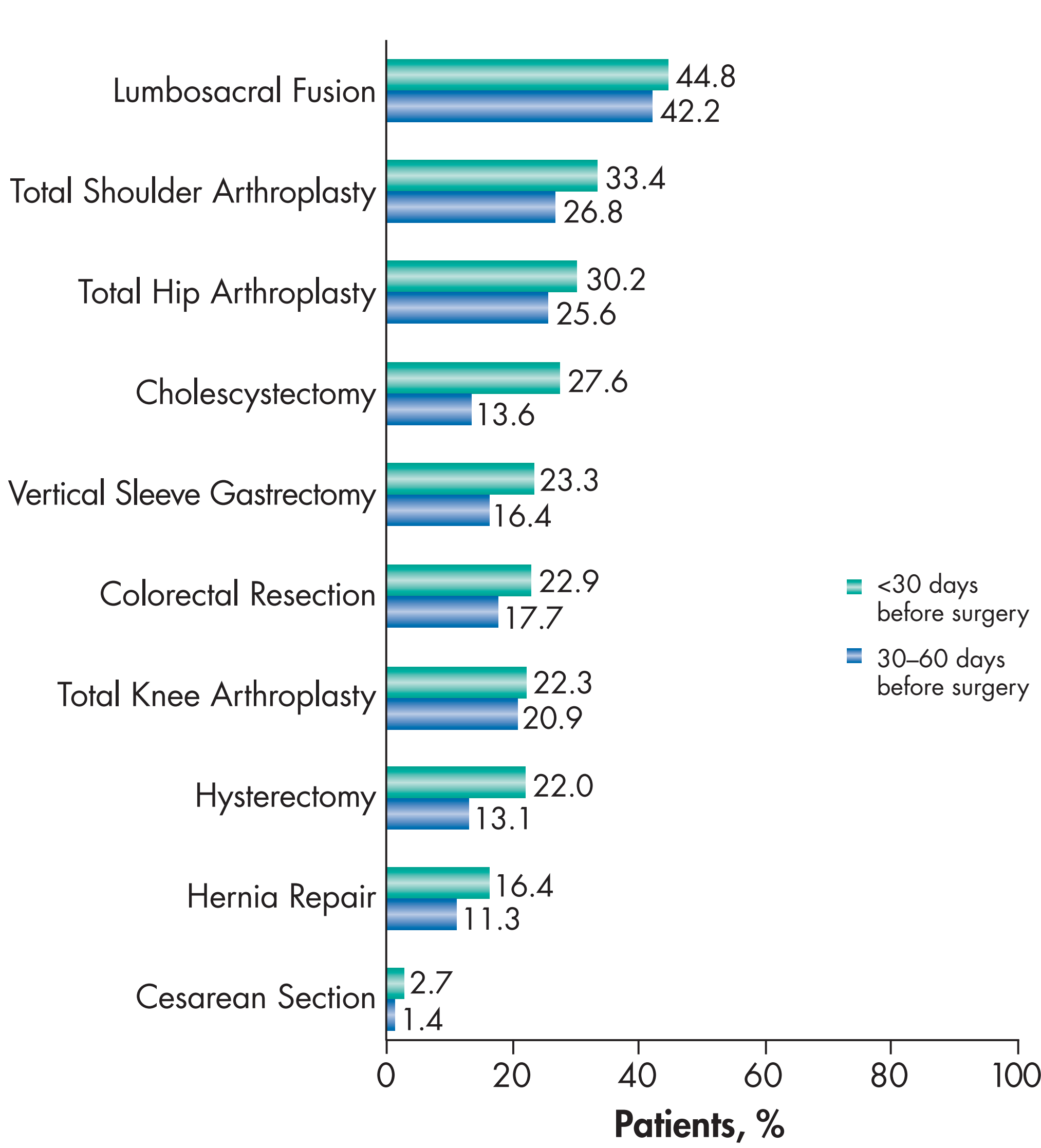
- Overall, 9476 patients (14.7%) filled an opioid prescription between 30 and 60 days before surgery, and 13,356 (20.8%) filled an opioid prescription <30 days before surgery (Figure 2).
- Nearly all patients (n=63,390; 98.7%) had a claim for intraoperative opioids (Figure 2).
- Overall, 28,319 patients (44.1%) filled an opioid prescription <30 days after surgery, and 11,750 (18.3%) filled an opioid prescription 30 to 60 days after surgery, indicating persistent use (Figure 2).

Figure 2. Percentages of Total Patients With Opioid Use



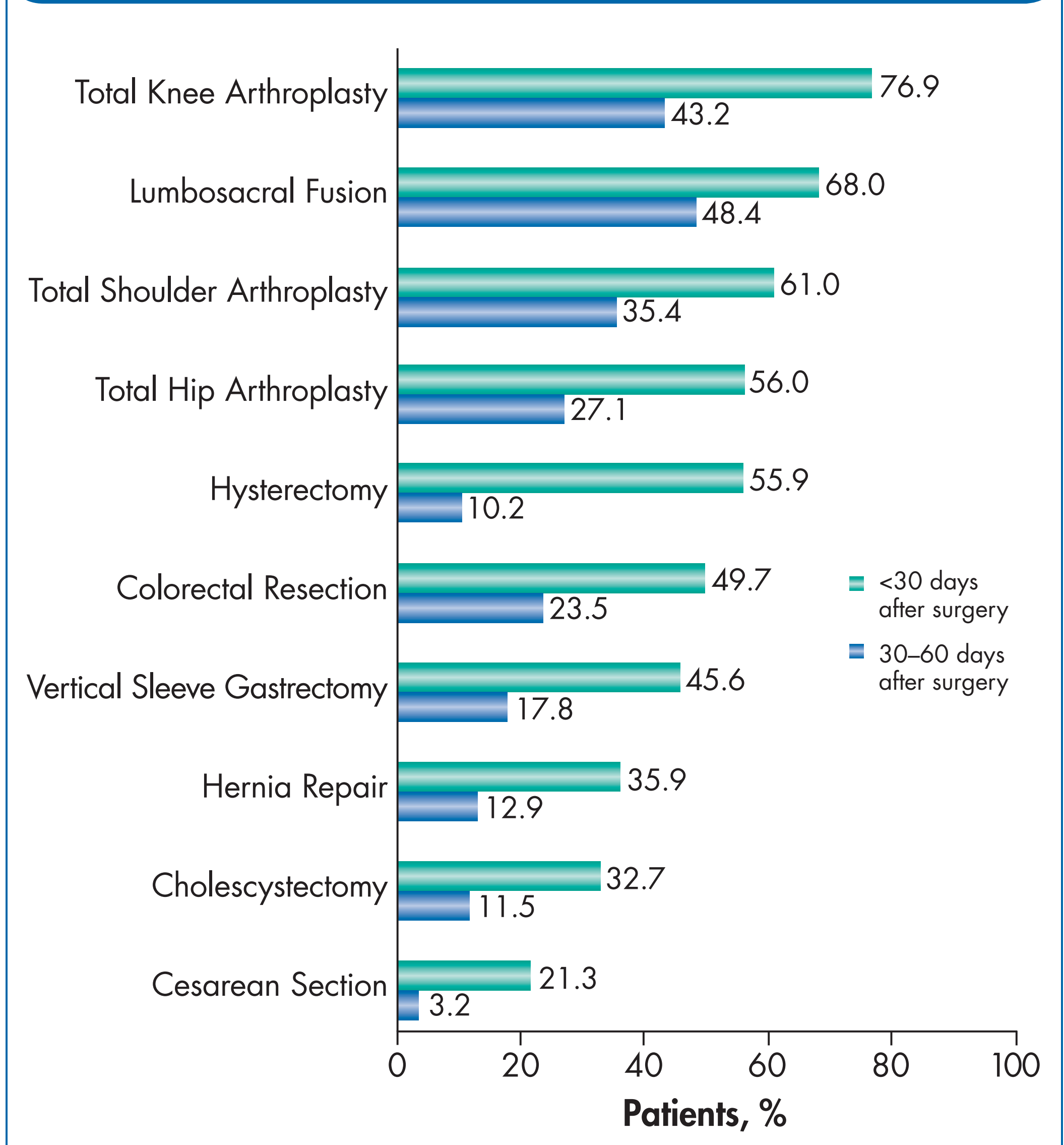
- Of the 10 elective procedures, rates of prescription opioid use <30 and 30–60 days before surgery were highest for lumbar fusion (44.8% and 42.2%, respectively) and lowest for cesarean section (2.7% and 1.4%, respectively) (Figure 3).

Figure 3. Breakdown of Percentages of Patients With Opioid Use <30 and 30–60 Days Before Surgery by Surgical Procedure



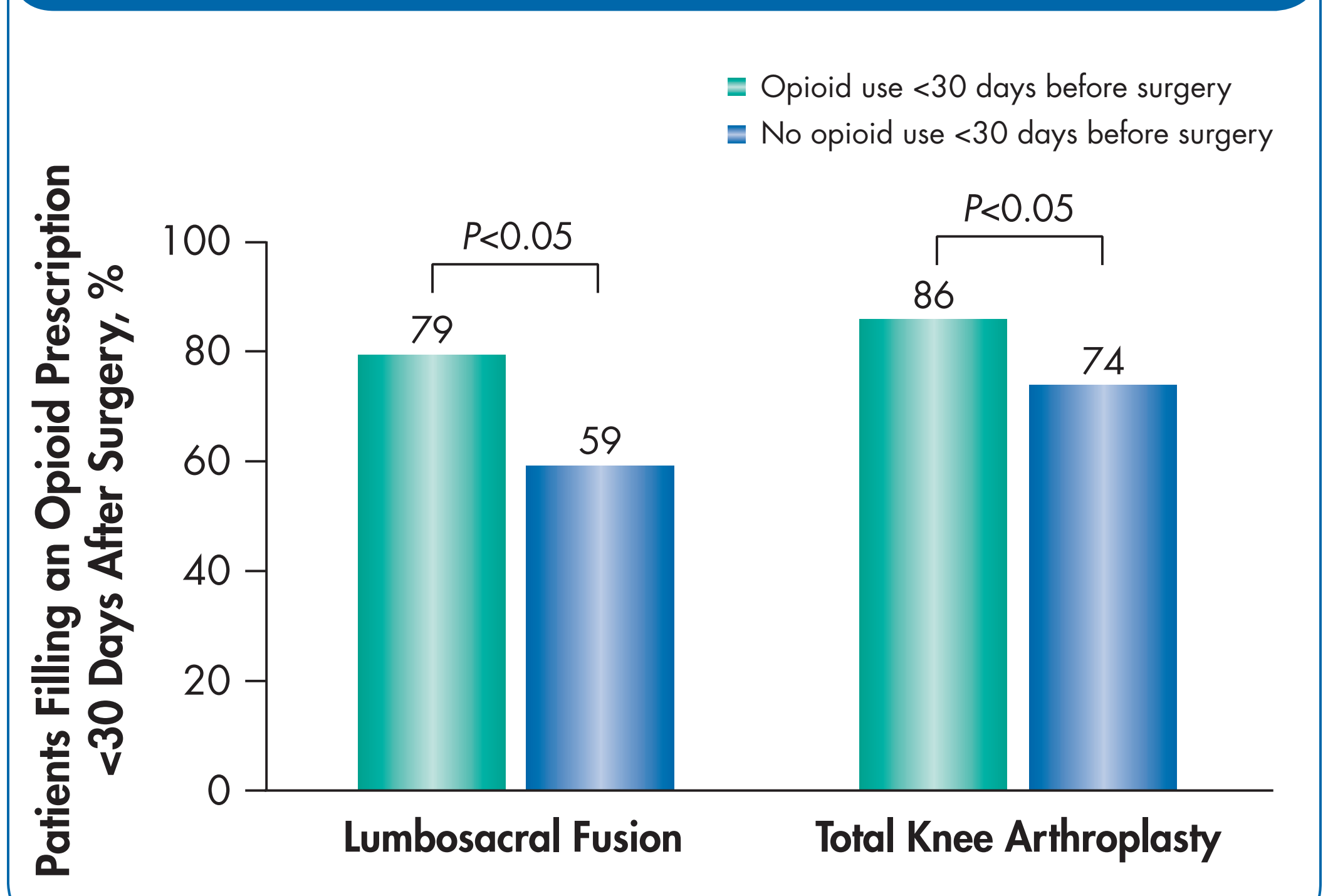
- Total knee arthroplasty had the highest percentage of patients with prescription opioid use <30 days after surgery (76.9%), and lumbar fusion had the highest 30 to 60 days after surgery (48.4%) (Figure 4).
- Cesarean section had the lowest percentages of patients with prescription opioid use <30 and 30 to 60 days after surgery (21.3% and 3.2%, respectively) (Figure 4).

Figure 4. Breakdown of Percentages of Patients With Opioid Use <30 and 30–60 Days After Surgery by Surgical Procedure



- The percentage of patients with opioid use <30 days after surgery was significantly higher in patients who received opioids <30 days before surgery compared with those who did not receive opioids <30 days before surgery (lumbar fusion, 79% vs 59%; total knee arthroplasty, 86% vs 74%; each, $P<0.05$) (Figure 5).

Figure 5. Opioid Use <30 Days After Surgery in Patients With and Without Opioid Use <30 Days Before Surgery



CONCLUSIONS

- Use of prescription opioids before surgery was common in a large cohort of adults undergoing elective surgical procedures.
- Nearly all patients received opioids at the time of surgery, and a substantial proportion continued to fill prescriptions between 30 and 60 days after surgery, posing a risk for persistent use.
- More research is needed to understand the short- and long-term health and economic consequences of perioperative opioid use and to evaluate approaches aimed at minimizing the use of opioids for postsurgical analgesia.

ACKNOWLEDGMENTS

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DISCLOSURES

AS is an employee of Healthagen Outcomes and has served as a consultant to Pacira Pharmaceuticals, Inc. AK and SD were employees of Pacira Pharmaceuticals, Inc., at the time of the study. AME, AT, and RRM are employees of Healthagen Outcomes.

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