Does providing surgeons with data about prescribed vs actual patient opioid use for postoperative pain control affect their prescribing patterns?

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Background

- From 2000 – 2014, the rates of death from prescription opioid overdose nearly quadrupled from 1.5 to 5.9 death per 100,00 persons
- Minor and major surgical procedures are associated with an **increased risk of chronic opioid use** in the postop period in opioid-naïve patients
- There is wide **variation in the amount of morphine milligram equivalent (MME) prescribed** to patients for postop pain control
  - Current literature suggests that **patients do not consume all the pills** they are being prescribed
- Several studies have implemented institution-wide **educational interventions that have reduced the MME of prescriptions** filled for postop cholecystectomy and appendectomy pain control by up to one half
  - No effect on postop pain scores or the number of postop emergency room visits for pain.

Problem Statement

- LVHN recently implemented an **opioid wean protocol** to be used when prescribing opioids for postop pain control
- This project intended to evaluate how many opioid pills are being used by patients versus prescribed for appendectomy and cholecystectomy postop pain control
  - We intended to analyze whether providing this information to prescribing surgeons increases use of the wean protocol and subsequently results in a lower MME prescribed

Methods

- Patients aged 18 and over undergoing appendectomy or cholecystectomy identified
- Patients were contacted by Transition of Care (TOC) nurses after discharge from surgery
- TOC nurses asked how many pills were used vs prescribed for postop pain control
- The average number of pills consumed vs prescribed was calculated for both procedures
- This data was systematically communicated to general surgery leadership from July 2020- Dec 2020
- Deidentified provider level prescribing data was provided to surgery leadership monthly
- The MME prescribed at discharged was tracked to assess whether there was a decrease in MME prescribed
- Use of the newly implemented opioid wean protocol was tracked

Results

Figure 1: Summary of Patients that were Contacted to Evaluate the Percent of Opioid Pills Taken Versus Prescribed for Postoperative Pain Control after Appendectomy or Cholecystectomy

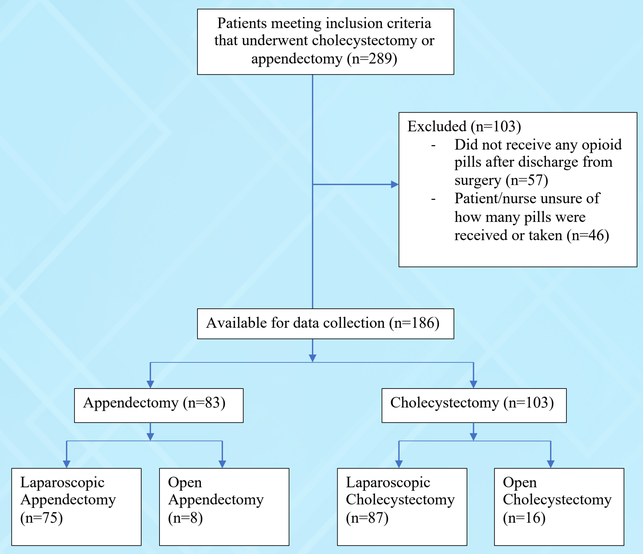


Figure 2: Percentage of Opioid Pills Actually Used for Postoperative Pain Control by Type of Surgery

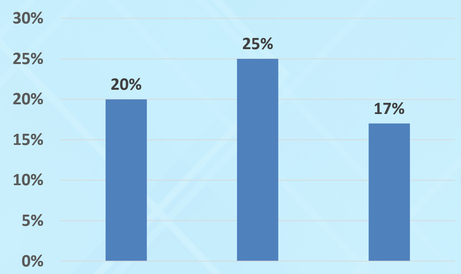
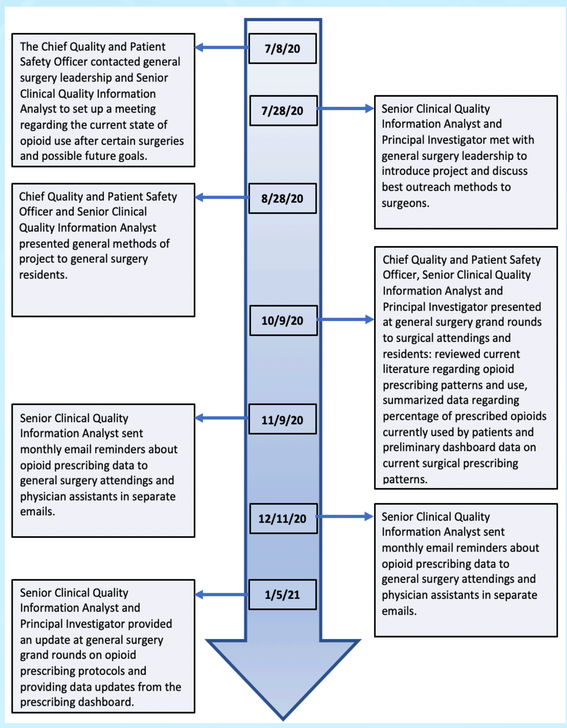


Figure 3: Timeline of Communications with General Surgery



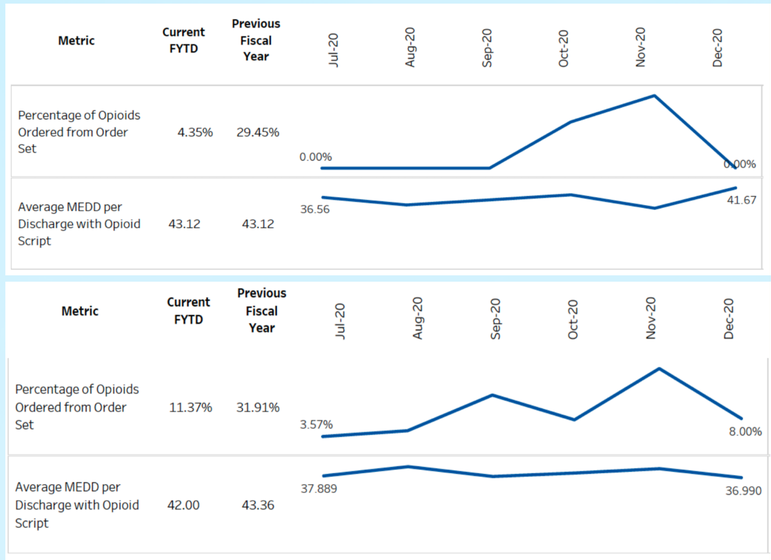


Figure 4: Appendectomy Data from July 2020 December 2020, including average Milligram Morphine Equivalents at Discharge (MEDD) and Percentage of Opioids Ordered from the Taper and Wean Order Set

Figure 5: Cholecystectomy Data from July 2020 December 2020, including average Milligram Morphine Equivalents at Discharge (MEDD) and Percentage of Opioids Ordered from the Taper and Wean Order Set

Conclusions

- Patients undergoing appendectomy or cholecystectomy used **80% fewer** opioid pills than prescribed
  - Providing this data to surgery leadership resulted in greater MME prescribed for appendectomy, and slightly less MME for cholecystectomy
  - Use of the opioid taper increased slightly for cholecystectomy
- Increased utilization of the opioid taper protocol may result in fewer MME prescribed
- Limitations
  - This study only analyzed a limited time period with limited intervention methods
- Future Implications
  - Further studies with longer time periods and additional interventions should be evaluated to see whether providing feedback to prescribers changes prescribing patterns, and if increased use of an opioid taper protocol results in decreased MME prescribed

SELECT Components

- Health Systems
  - Clinical subject matter experts, information technology teams, data analysts, a nursing team, and physicians all required coordination to successfully implement the opioid taper protocol
- Values Based Patient Centered Care
  - Patient centered language was built into the opioid taper protocol, and shared decision making was encouraged between prescribers and patients
- Leadership
  - Institutional leadership involved with the project sought to: create a climate for change, engage and enable the whole organization and implement and sustain change (John Kotter's 8 Steps to Successful Change)