

Introduction

- The U.S. has the highest opioid use per capita in the world, accounting for 80% of opioid consumption globally.
- Postoperative overprescription contributes to misuse, diversion, addiction, and death.
- Of all prescribers, orthopedic surgeons are one of the highest opioid-prescribers for their surgeries.
- This risk may be mitigated in the acute care setting prior to patient discharge via a **postoperative pain protocol that minimizes opioid use and capitalizes on the multimodal technique** to meet pain stimuli at its various types of receptors.

Background & Significance

- Total knee replacements (TKR) are known to be one of the most painful surgeries.
- Research has shown that “an acute surgical episode can lead to prolonged opioid use, with increased risk of tolerance, and opioid-induced hyperalgesia.”
- Extended-release (ER) opioids such as oxycodone-ER (OxyContin) tend to cause hyperalgesia and are generally not recommended or labeled for use for opioid naïve patients in the immediate postoperative period.

Clinical Question

In patients undergoing unilateral TKR, how does a multimodal **pain management protocol without extended-release opioid** analgesics, compared to one *with* extended-release opioid analgesics, affect pain scores, overall opioid use, antiemetic use, length of stay, number of opioid discharge prescriptions, and discharge disposition?

Methodology

- ❖ **Purpose:** To evaluate an institution’s current postoperative pain protocol to determine whether eliminating ER opioids in the medication regimen of TKR patients resulted in improved outcomes
- ❖ **Design:** Retrospective chart review of pre- and post-intervention patient data
- ❖ **Framework:** CIPP Model for Evaluation
- ❖ **Setting:** Suburban, 352-bed teaching community hospital in northeastern NJ
- ❖ **Population:** Cohort sample of patients who underwent unilateral TKA in the medical center Sept 2018 - Dec 2018 (previous protocol) or Mar 2019 - Jun 2019 (new/current protocol sans ER opioids)

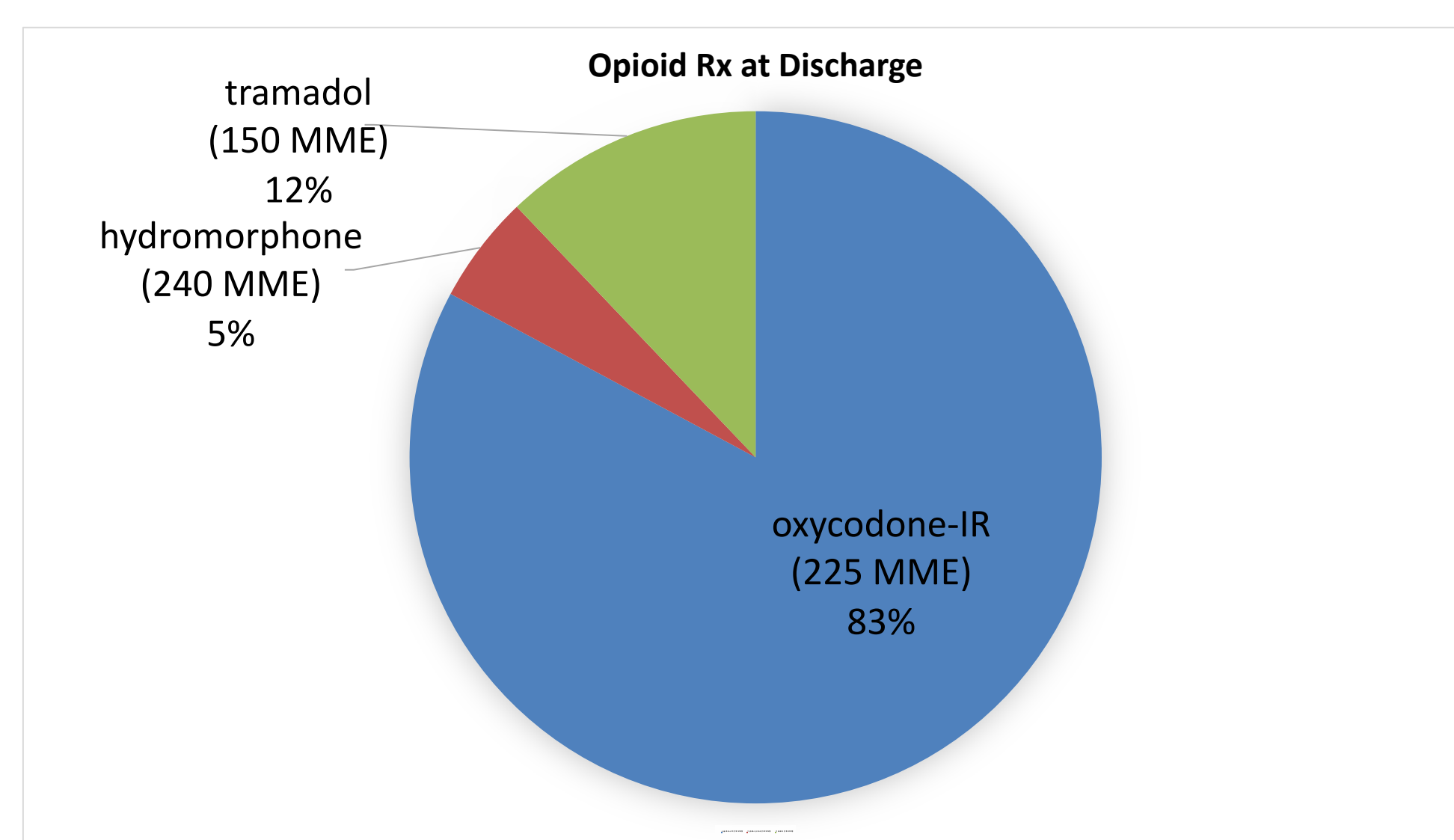
Results

Demographics (N = 60):

- Pre-protocol group (n = 36): mean age 70.1 (8.9); 44% (16) M, 56% (20) F
- Post-protocol group (n = 24): mean age 69.5 (8.6); 42% (10) M, 58% (14) F

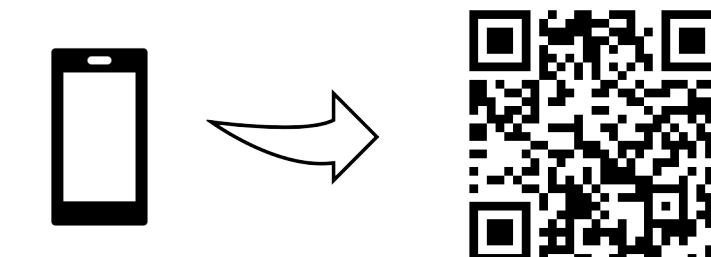
Opioid Rx at discharge:

1 Rx per patient, 30 tabs, 0 refills for all



References / Contact

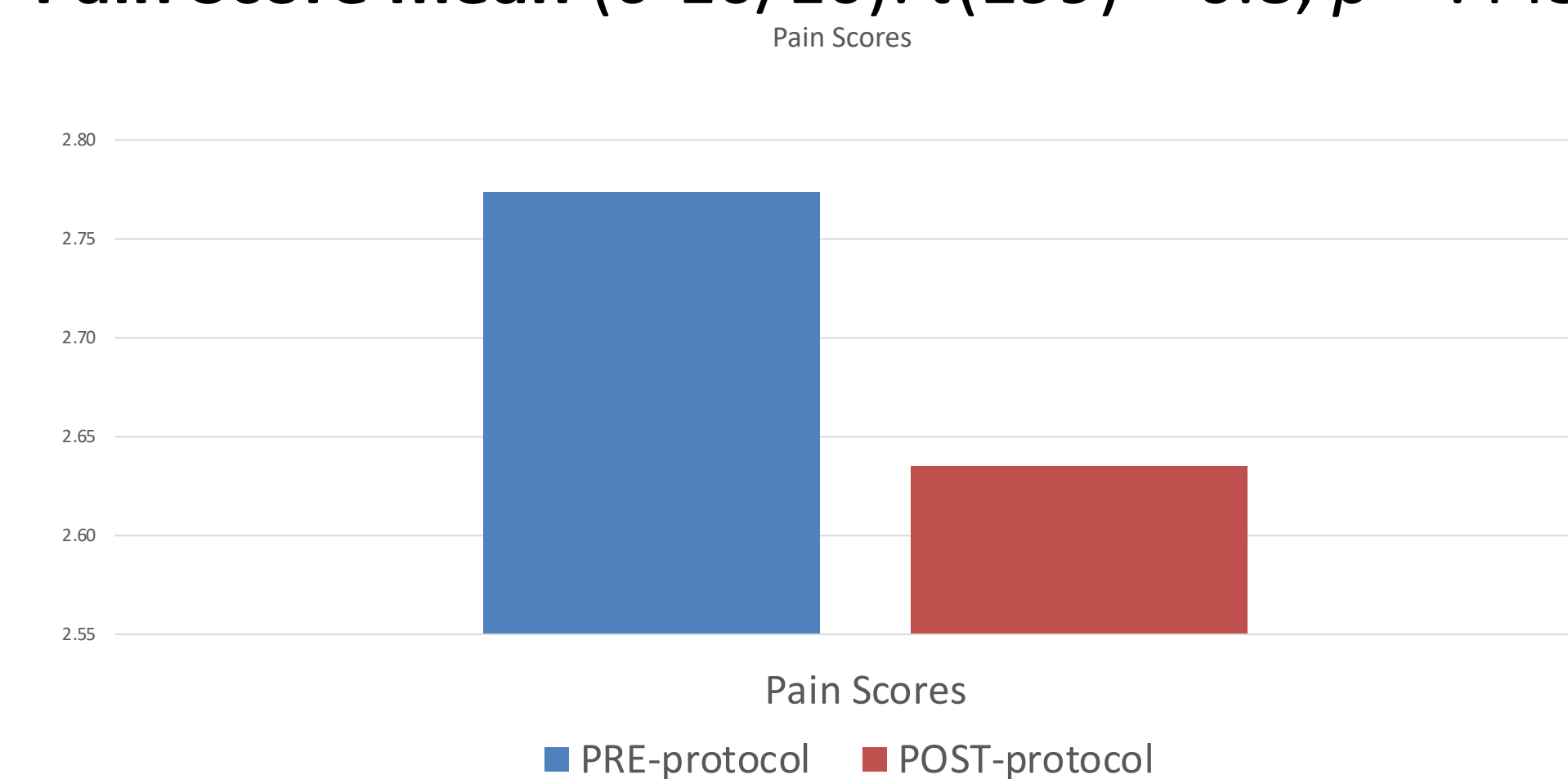
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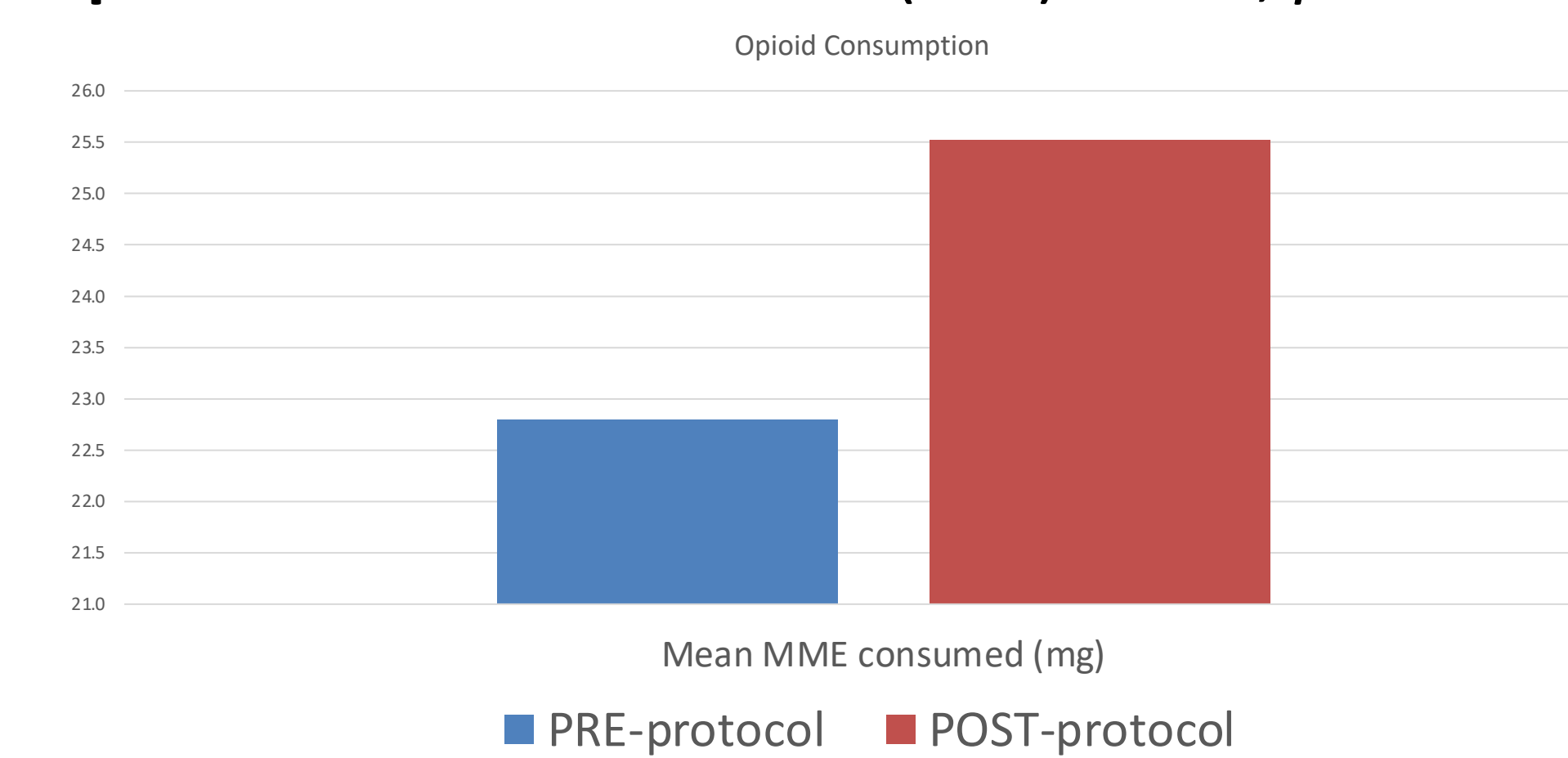
✉ Presenter: kalachiana@gmail.com

Results cont'd

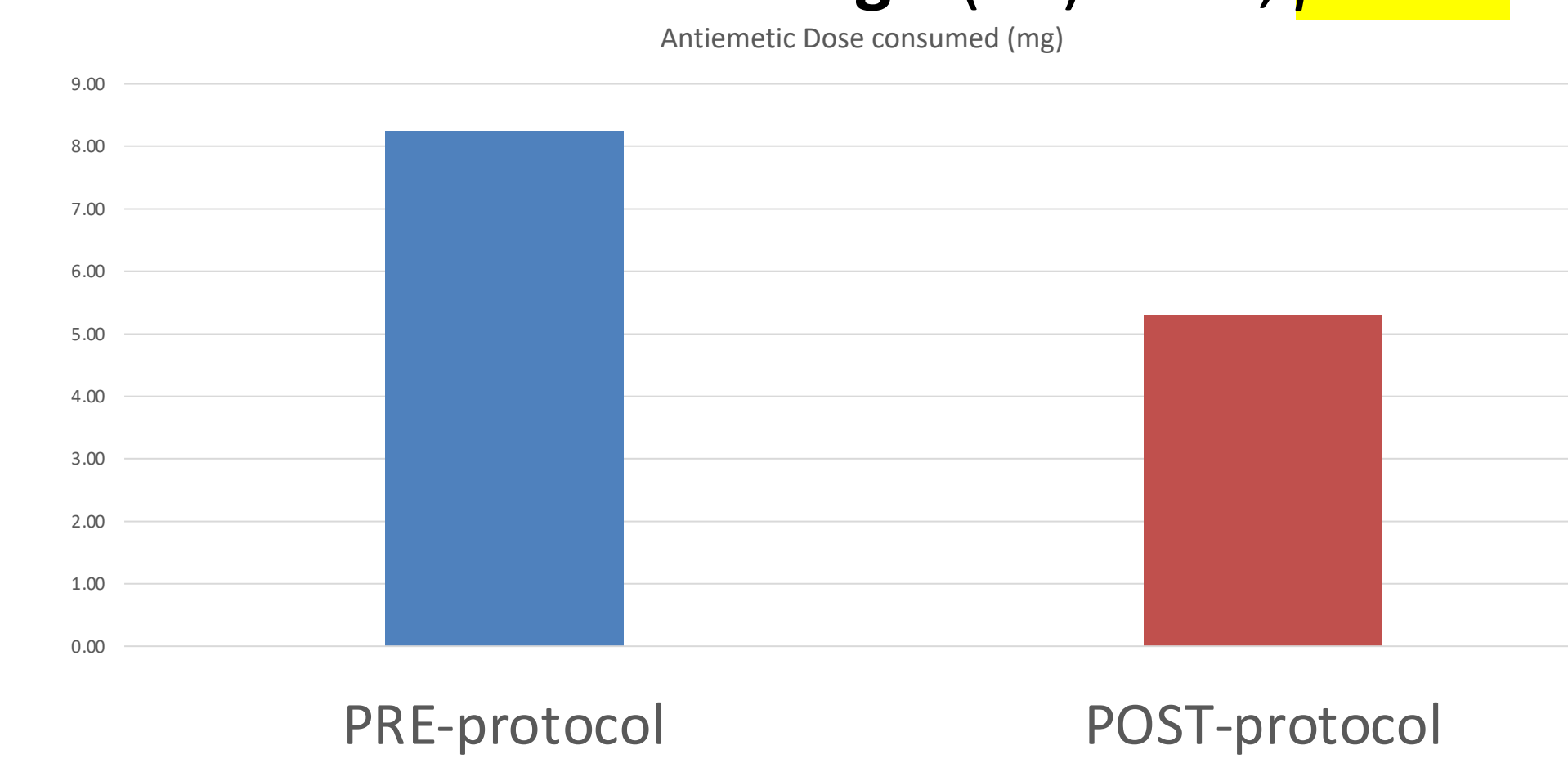
Pain Score mean (0-10/10): $t(199) = 0.8, p = .445$



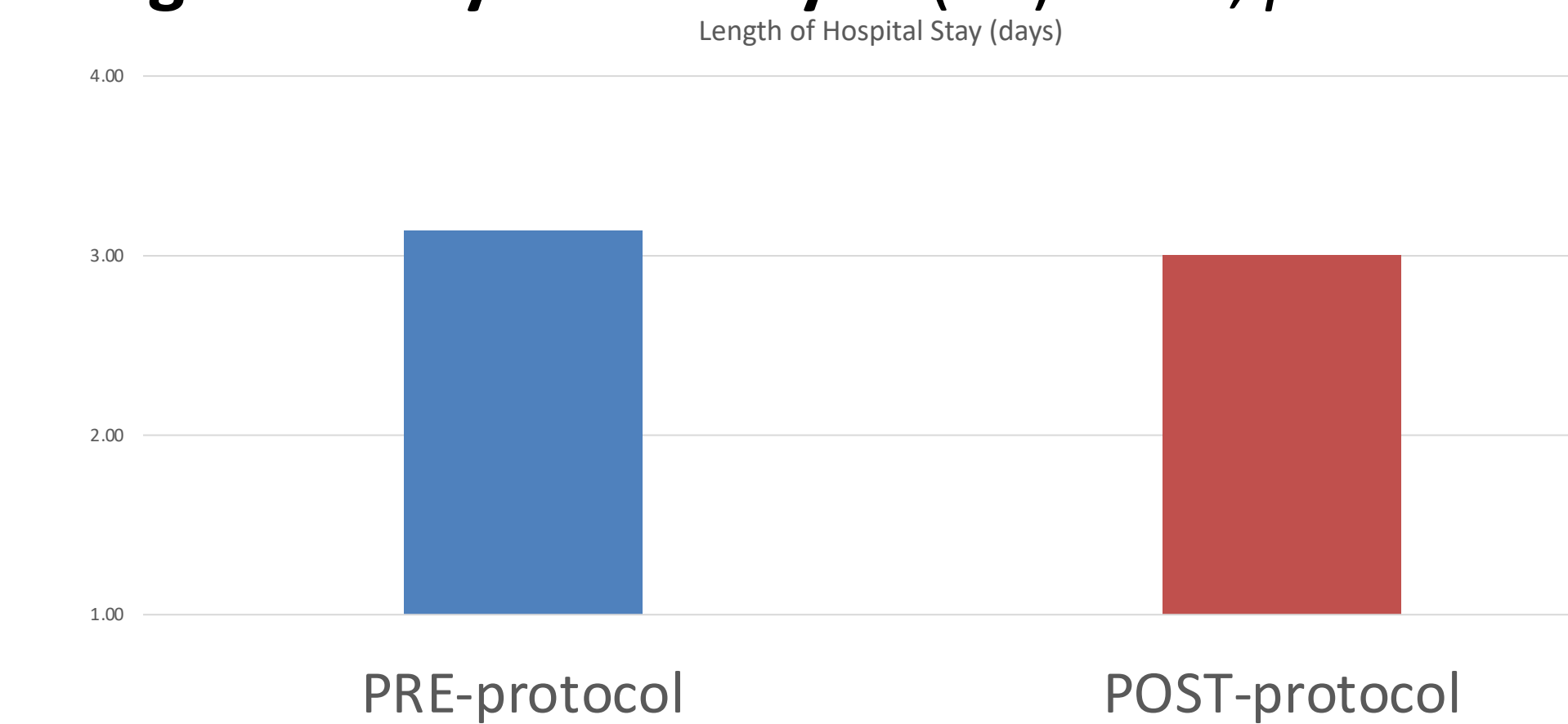
Opioid Dose mean MME: $t(174) = -1.4, p = .17$



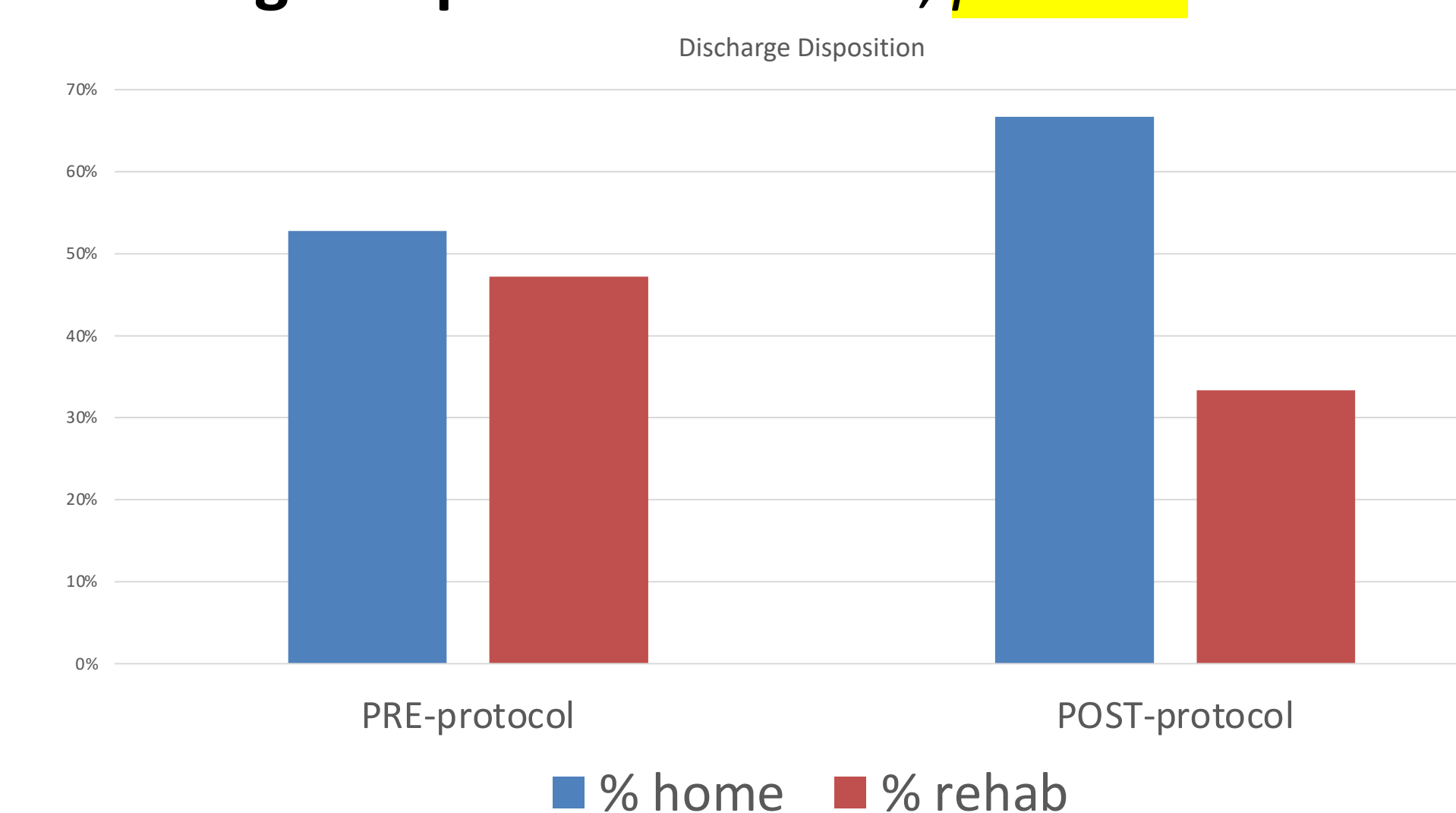
Antiemetic Dose mean mg: $t(59) = 2.2, p = .03$



Length of Stay mean days: $t(58) = 1.0, p = .33$



Discharge Disposition: $\chi^2 = 60, p < .001$



Eliminating ER opioids...

- decreased pain scores
- decreased antiemetic use
- reduced length of hospital stay
- increased discharges to home than rehab

Discussion

- Morphine milliequivalent (MME) may be higher in the post group, however their pain may have been better controlled by compensating with taking more IR pills.
- Eliminating ER opioids did not reduce the MME consumed; however, intervention is still valuable as it is more difficult to wean patients off ER pills.
- While post group consumed more MME, use of antiemetics was less, suggesting ER opioids may be a contributor of more nausea.
- Recommendations:
 - ✓ Discontinue ER opioids in this setting
 - ✓ Continue multimodal analgesia while inpatient & for discharge prescriptions
 - ✓ Tailored discharge opioid rx (MME<200) based on inpatient use

Implications

- Clinical Practice – more consistent ER-free pain protocols
- Quality and Safety – reduction of adverse effects of opioids
- Healthcare Policy – promote adherence to CDC guidelines
- Economic Benefits – more discharges home than rehab, less antiemetic use