

Using a Resident-Led Process Improvement Committee to Change Pain Medication Prescribing Habits: Early Results

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GROSS Committee

The **Getting Rid of Stupid Stuff (GROSS) Committee** is a resident-led group of general surgical residents that was created to optimize EPIC-related workflows. Our goal is to identify inefficient processes and to work with EPIC implementation groups to enact changes to standardize work processes, reduce provider fatigue, and improve patient care.

Here, we describe a process-improvement project geared toward streamlining the ordering of pain medications and reducing unnecessary medication use.

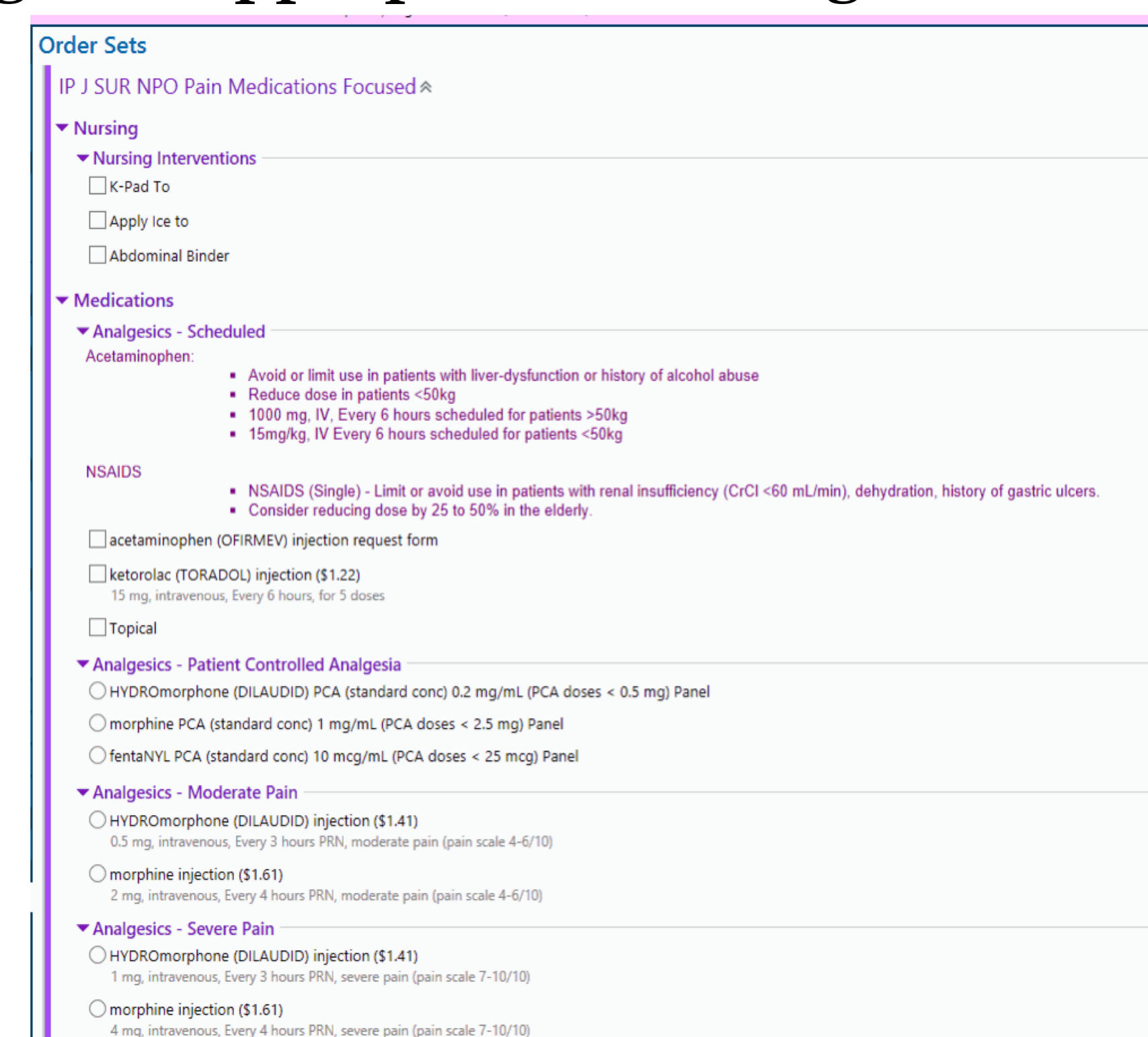
Background

In the postoperative setting, patients routinely need to transfer from a *nil per os* (NPO) status to other diets as their care is advanced, or from diets to NPO if they are not tolerating a diet. We sought to streamline the changing of pain medication orders back and forth from IV to PO.

Additionally, intravenous (IV) acetaminophen (Ofirmev®) is a non-opiate analgesic that is both highly efficacious in pain relief and very expensive. Many hospital systems have sought to curb its use to situations in which patients are NPO. Through a partnership with the P&T Committee at Jefferson, we initiated a pilot program to encourage and identify appropriate and judicious clinical use of IV acetaminophen.

The aims of this project were to:

- 1) Streamline the ordering of IV and PO pain meds
- 2) Encourage the appropriate ordering of Ofirmev®



Order Sets
IP J SUR NPO Pain Medications Focused &

▼ Nursing

Nursing Interventions

- ☐ K-Pad to
- ☐ Apply ice to
- ☐ Abdominal binder

▼ Medications

Analgesics - Scheduled

Acetaminophen

- Avoid or limit use in patients with liver-dysfunction or history of alcohol abuse
- Reduce dose in patients <50kg
- 1000 mg IV Every 6 hours scheduled for patients >50kg
- 15mg/kg IV Every 6 hours scheduled for patients >50kg

NSAIDs

- NSAIDs (Single) - Limit or avoid use in patients with renal insufficiency (CrCl <60 mL/min), dehydration, history of gastric ulcers.
- Consider reducing dose by 25 to 50% in the elderly.

☐ acetaminophen (OFIRMEV) injection request form

☐ ketorolac (TORADOL) injection (\$1.22)

10 mg intravenous, Every 6 hours, for 3 doses

☐ Topical

▼ Analgesics - Patient Controlled Analgesia

- ☐ Hydromorphone (DILAUDID) PCA (standard conc) 0.2 mg/mL, PCA doses < 0.5 mg/10
- ☐ morphine PCA (standard conc) 1 mg/mL, PCA doses < 2.5 mg/10
- ☐ fentanyl PCA (standard conc) 10 mcg/mL, PCA doses < 25 mcg/10

▼ Analgesics - Moderate Pain

- ☐ Hydromorphone (DILAUDID) injection (\$1.41)
- 0.5 mg intravenous, Every 3 hours PRN, moderate pain (pain scale 4-6/10)
- ☐ morphine injection (\$1.61)
- 2 mg intravenous, Every 4 hours PRN, moderate pain (pain scale 4-6/10)

▼ Analgesics - Severe Pain

- ☐ Hydromorphone (DILAUDID) injection (\$1.41)
- 1 mg intravenous, Every 3 hours PRN, severe pain (pain scale 7-10/10)
- ☐ morphine injection (\$1.61)
- 4 mg intravenous, Every 4 hours PRN, severe pain (pain scale 7-10/10)

Figure 1. IP J SUR NPO Pain Medications Order-Set

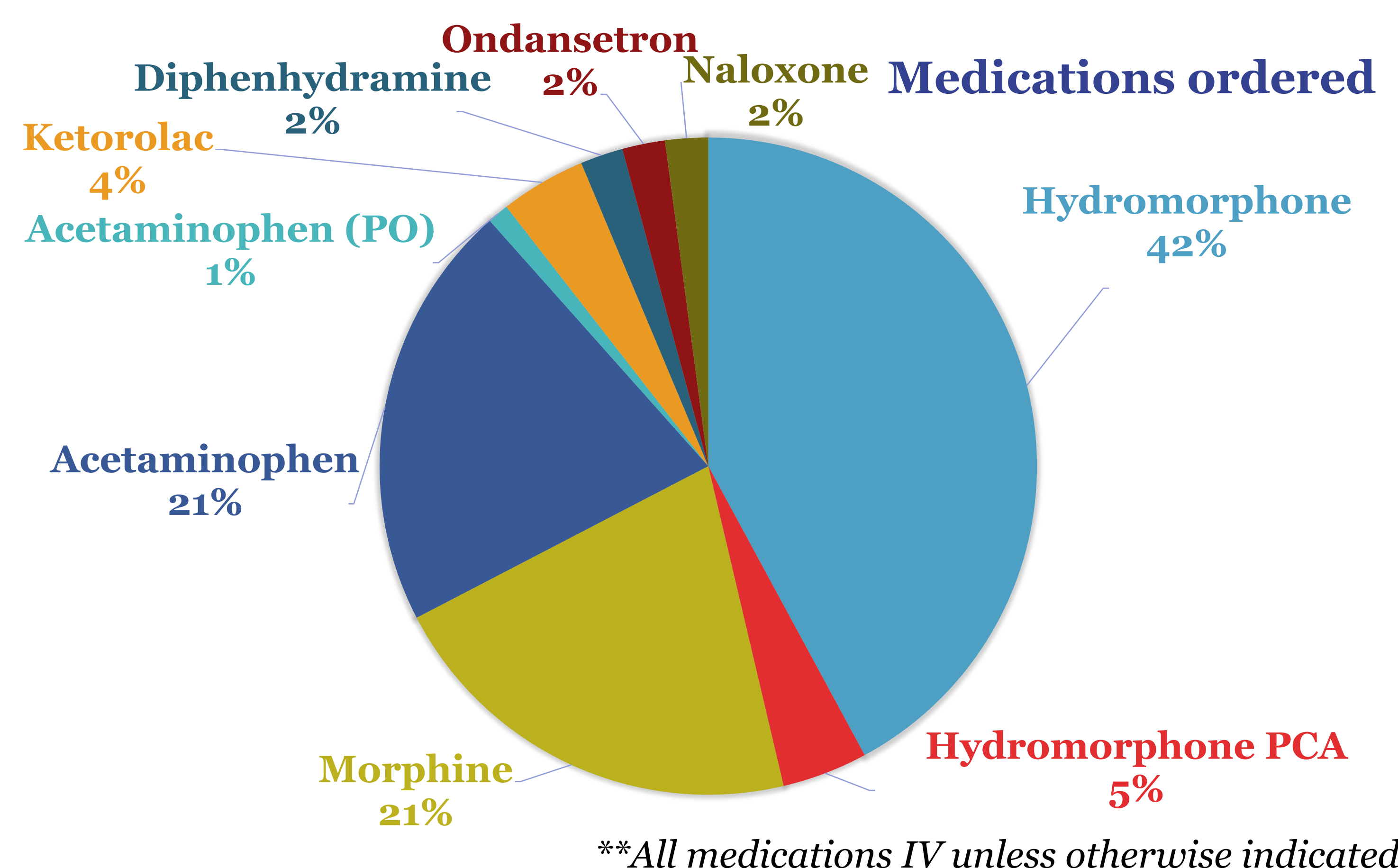
Results: Order-Set Use

The IV pain medication order-set was introduced in August 2019. Since then, it has been used **77 times** (Fig. 2).

Figure 2. IV Pain Med Order-Set Use Over Time



Figure 3. Medications Ordered via IV Pain Medication Order-Set



Results: Ofirmev® Use

In total, there were **14,390 total Ofirmev® orders** placed since **4/1/17**. This included **7,800 in the last year alone** (2019) compared to **4,207 in 2018** (Fig. 4).

The most common units in which Ofirmev® was ordered were the operating rooms, ICU, and floor – specifically surgical units (Fig. 5).

There were **86 Ofirmev® orders** placed via order-set. In total, **20 such orders were placed via the IV pain med order-set** (Fig. 6).

Results: Ofirmev® Use (Cont.)

Figure 4. Ofirmev® Orders Since 4/1/17, by month



Figure 5. Location of Providers Ordering Ofirmev® since 4/1/17 (Overall)

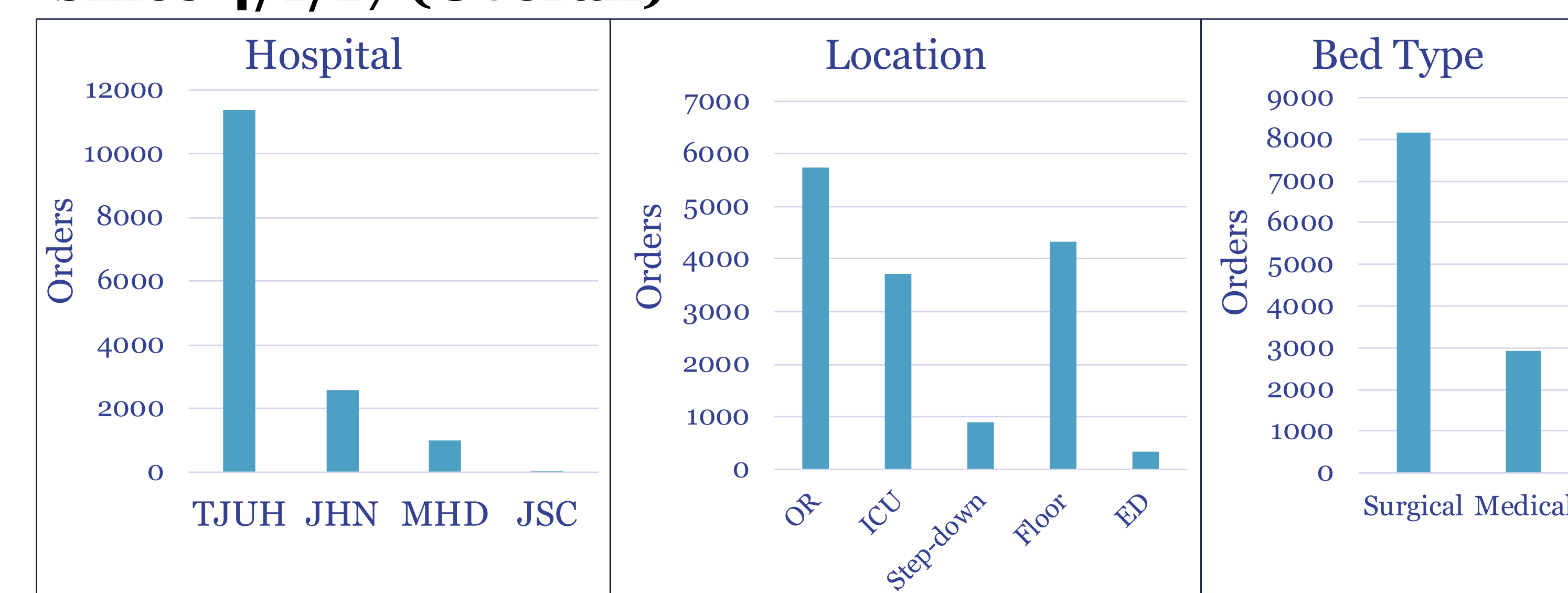
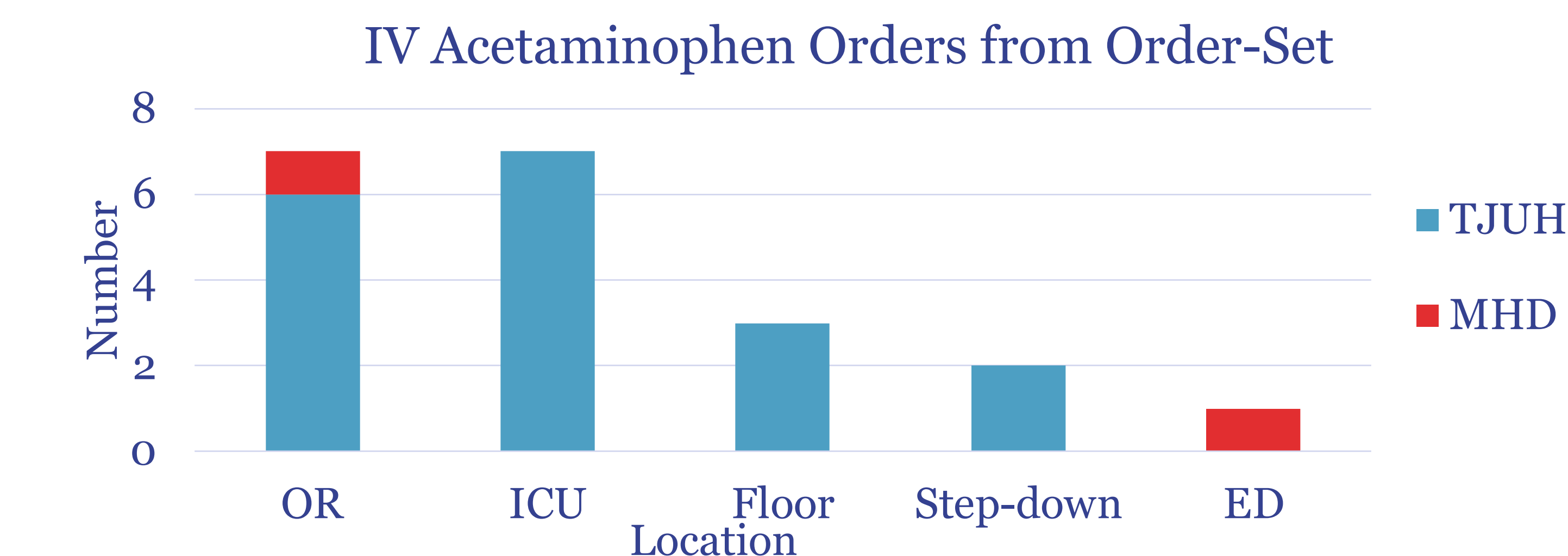


Figure 6. Location of Providers Ordering Ofirmev® using IV Pain Med Order-Set



Conclusions & Future Directions

Creation of a dedicated order-set for ordering pain medications can simplify workflow for residents, but widespread adoption remains a challenge. The use of Ofirmev® increased until late 2019 and then decreased. Further evaluation into reasons for this decline may show important patterns that could aide in the development of cost- and clinically-effective pain treatment algorithms.

This work was supported by the Driving Change award.