



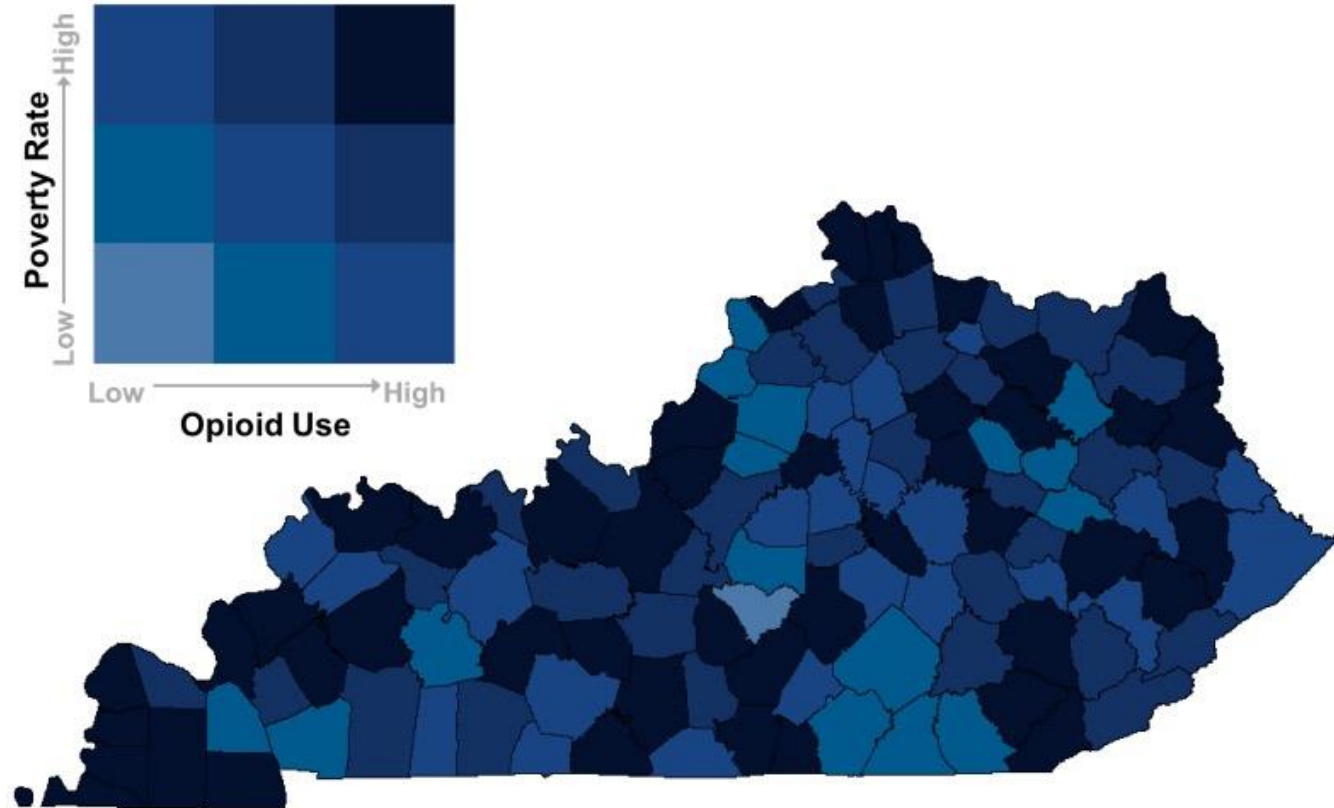
(The Power of) advanced medicine

Opioid Stewardship

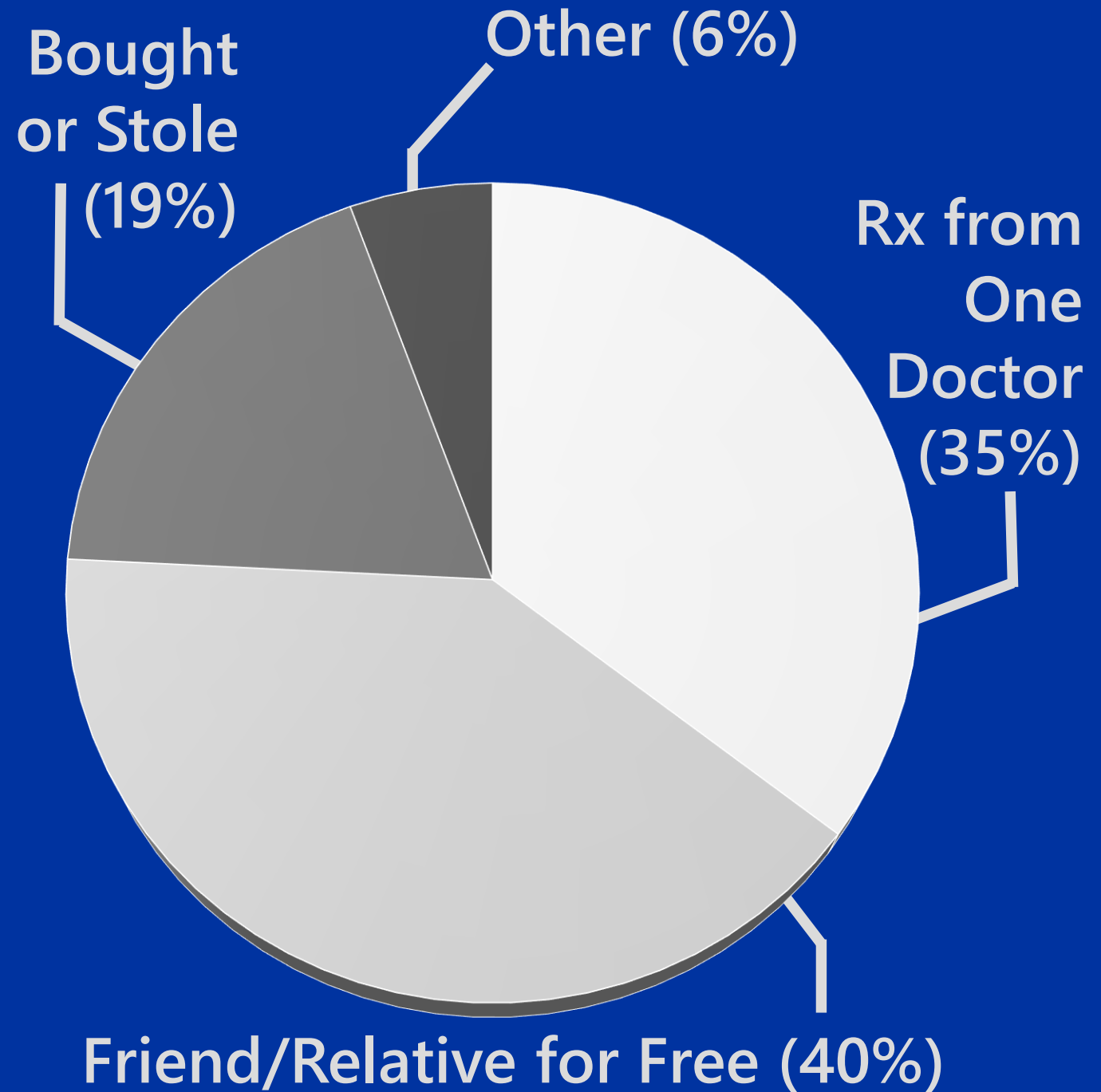
Doug Oyler, PharmD
Director, Office of Opioid Safety

Poverty and Opioid Use Collide in Kentucky

- 36/120 Kentucky counties rank in the 90th percentile or higher nationally for individuals per capita living in poverty
- 32/120 Kentucky counties rank in the 90th percentile or higher nationally for opioid prescriptions per capita



Nearly 3 in 4
heroin users
started with
prescription
opioids.



About UK HealthCare

- Three campuses in Lexington, KY
- 1,086 licensed beds
- Level 1 Trauma Center, Level IV NICU, Magnet® Recognized, NCI Cancer Designation
- Over 42,000 annual discharges
- Over 36,000 annual surgeries
- Over 118,000 emergency department visits
- Nearly 1.8M annual outpatient visits

STATEWIDE IMPACT

UK HEALTHCARE REACHES
ACROSS KENTUCKY
WITH CARE MEETING
COMMUNITY NEEDS

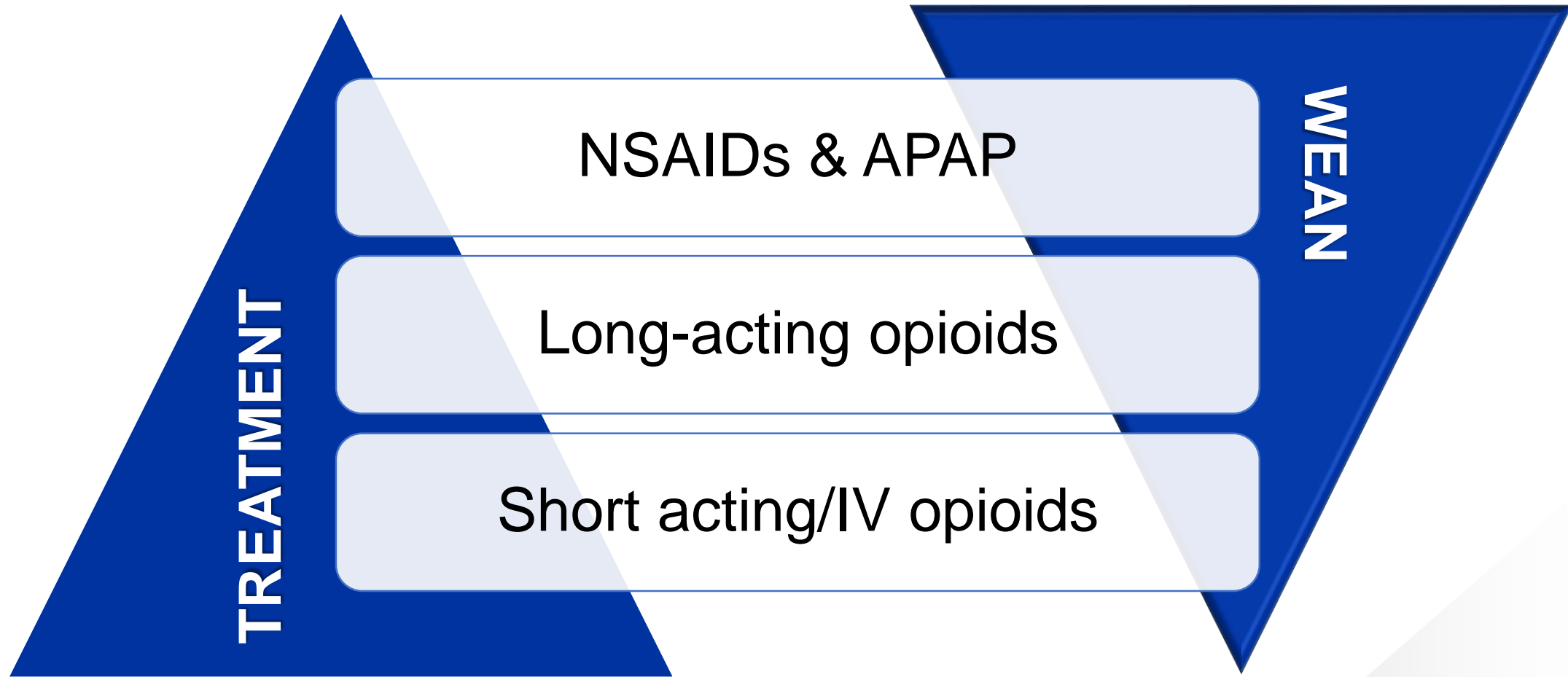
UK HealthCare has built a statewide network of clinical affiliates and outreach relationships that have helped build the breadth and depth of clinical programs that make it possible for Kentuckians to remain in state, closer to home, for complex, subspecialty care.

In 2018, UK HealthCare's annual discharges exceeded 42,000 patients, our solid organ transplants exceeded 200 patients across all organs and our ambulatory clinic visits topped 1.7 million.

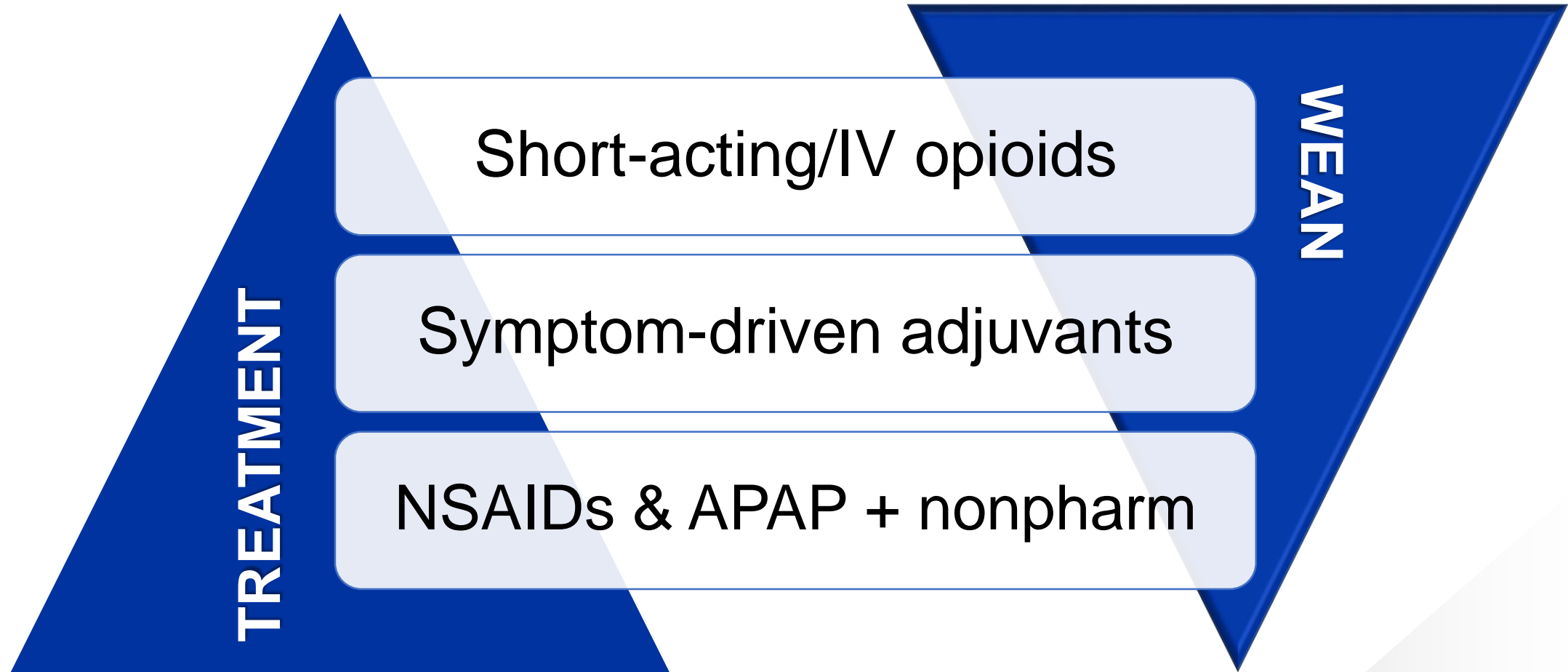
In order to sustain the volumes necessary to support programs like these, our efforts to build a statewide network have continued as we have added new clinical affiliates across the state to support our traditional mission to provide highly specialized, complex care.

- Markey Cancer Center Affiliate Network and Outreach Relationships
 - Markey Cancer Center Research Network
 - Organ Failure and Transplant Network and Outreach Relationships
 - Gill Heart and Vascular Institute Affiliate Network and Outreach Relationships
 - Obstetrics and Gynecology Community Divisions and High Risk Obstetrics Telemedicine Program
 - Medical School Regional Campus
- Edgewood campus opens fall 2019

The Old Way of Thinking & Prescribing



The New Way of Thinking & Prescribing



Minimizing opioid use after acute major trauma

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Andrew C. Bernard, M.D., Division of Trauma, Acute Care Surgery, and Surgical Critical Care, University of Kentucky HealthCare, Lexington, KY.
Jeremy D. VanHoose, Pharm.D., BCPS, University of Kentucky HealthCare, Lexington, KY, and Department of Pharmacy, University of Kentucky College of Pharmacy, Lexington, KY.
Sara E. Partl, Pharm.D., BCCCP, University of Kentucky HealthCare, Lexington, KY, and Department of Pharmacy, University of Kentucky College of Pharmacy, Lexington, KY.
C. Scott Ellis (Pharm.D. student), University of Kentucky College of Pharmacy, Lexington, KY.
David Li (Pharm.D. student), University of Kentucky College of Pharmacy, Lexington, KY.
Levi D. Procter, M.D., Division of Trauma, Acute Care Surgery, and Surgical Critical Care, University of Kentucky HealthCare, Lexington, KY.
Phillip K. Chang, M.D., Division of Trauma, Acute Care Surgery, and Surgical Critical Care, University of Kentucky HealthCare, Lexington, KY.

Purpose. Results of an initiative at an academic medical center to reduce prescription opioid use in patients with acute traumatic injuries are reported.

Methods. In 2014, the University of Kentucky Hospital trauma service implemented a pain management strategy consisting of patient and provider education emphasizing the use of nonopioid analgesics to minimize opioid use without compromising analgesia effectiveness. To assess the impact of the initiative, a retrospective analysis of data on cohorts of patients admitted with acute trauma before (n = 489) and after (n = 424) project implementation was conducted. The primary endpoint was opioid use (prescribed daily milligram morphine equivalents [MME]) at discharge. Secondary endpoints included inpatient opioid and alternative analgesic use, pain control, ileus development, length of stay, and discharge disposition.

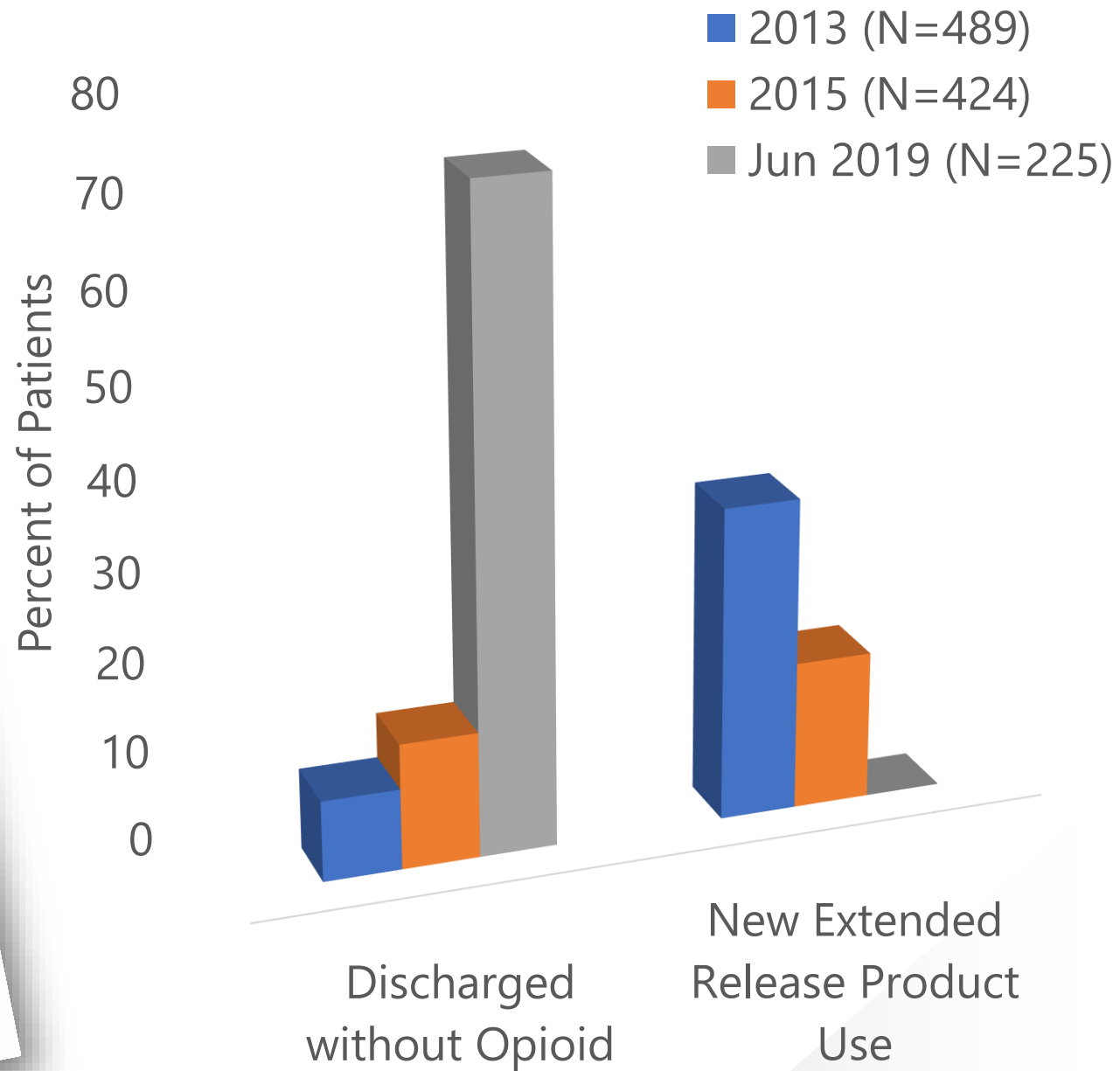
Results. Compared with the preintervention cohort, the postintervention cohort had a lower median daily discharge MME overall (45 MME versus 90 MME, p < 0.001); after stratification of MME data by baseline opioid use, this finding held true only for patients with no opioid prescription at admission. Although utilization of gabapentinoids, skeletal muscle relaxants, and clonidine increased during the postintervention period, inpatient opioid use did not differ significantly in the 2 cohorts. Utilization of both nonsteroidal antiinflammatory drugs and acetaminophen was lower in the postintervention cohort versus the preintervention cohort.

Conclusion. Targeted provider and patient education on minimizing opioid use was associated with a reduction in MME on discharge from the hospital after traumatic injury.

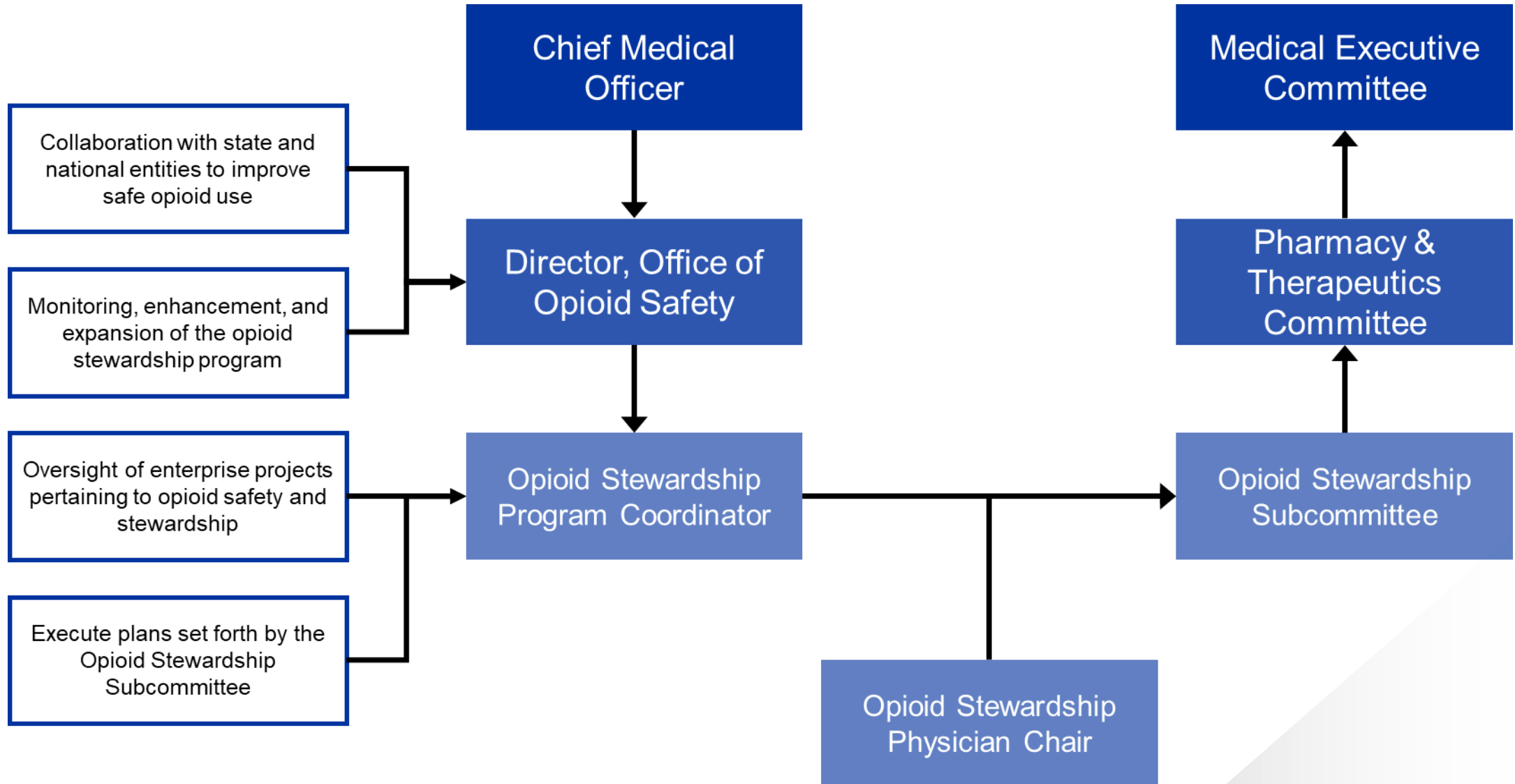
Keywords: NSAID, opioid, pain management, trauma
Am J Health-Syst Pharm. 2018; 75:105-10

Although pain is a widely accepted consequence of traumatic injury, and although there are many complications that arise from improperly managed pain, little has changed in the management of pain in recent years.¹ Many providers continue to rely on opioids as the mainstay of analgesia.² Drug overdose is the leading cause of injury-related death in the United States, and prescription opioids are the most commonly implicated substances.³ Further, most individuals who abuse opioids first received them directly from a provider's prescription or "free of charge from a friend or relative" who also obtained the drugs by prescription.⁴ The Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration have in recent years implemented a number of initiatives to reduce opioid prescribing^{5,6}; however, management of pain in the context of acute traumatic injury has not been included in published CDC opioid prescribing guidelines. Patients with traumatic injuries are usually male and middle aged, and they commonly use or abuse psychotropic medications and, therefore,

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 DOI 10.2146/ajhp161021



System-Wide Expansion



Opioid Use

July 2016

| Metric | Overall Institution | Internal Medicine | Trauma | General Surgery |
|------------------------------------|---------------------|-------------------|--------|-----------------|
| | 2016 | 2016 | 2016 | 2016 |
| Average daily MME per patient | 30 | 30 | 40 | 30 |
| Patients receiving >90 MME per day | 5.07% | 8.67% | 6.88% | 3.51% |
| Average daily pain score | 2.78 | 3.33 | 5.03 | 5.06 |

“Nudging” Workflow

COM - Adult - Analgesia (Non-Intubated) [0 orders of 27 are selected]

Date: 18-Jan-2018
 Ordering Service:
 Supervising Attending:
 Ordering Physician Pager:

Clinical Decision Support
[Click Here For Ordering Guidance -->](#)

Note for prescriber: Review KASPER report and continue home analgesic regimen as appropriate.

Nursing Orders

| Order | Date | Priority | Frequency | Special Instructions |
|--|------|----------|-----------|--|
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Utilize aromatherapy as appropriate |
| <input type="checkbox"/> Heating Pad | T | Routine | | Apply for 15-20min at a time, then off for 15-20min |
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Cold Therapy: Apply for 15-20min at a time, then off for 15-20min |
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Use opioids only for pain that is refractory to ordered non-opioid and non-pharmacologic measures, including |
| <input type="checkbox"/> Education Packet | T | Routine | once | Print KRAMES education "Pain Control: A Narcotic May Not Be The Best Medicine" |

Medications

1st Line Pharmacologic Analgesics

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|---|------------|----------|----------|-----------|----------|-----------------|-------------|---------------|---------------|--------------------------|------------|----------------------|
| Pharmacologic Analgesics - 4 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Acetaminophen | T | Routine | | | 1000 | MG | Tablet | Oral | every 6 hours | <input type="checkbox"/> | | |
| <input type="checkbox"/> Ibuprofen | T | Routine | 400 | | | MG | Tablet | Oral | every 6 hours | <input type="checkbox"/> | | |
| <input type="checkbox"/> Celecoxib | T | Routine | | | 100 | MG | Capsule | Oral | 2 times a day | <input type="checkbox"/> | | |
| <input type="checkbox"/> Ketorolac Inj. | T | Routine | | | 15 | MG | Solution | IntraVenously | every 6 hours | <input type="checkbox"/> | | |

2nd Line Pharmacologic Analgesics (based on type of pain) Neuropathic, Burning, Tingling, Shooting, or Stinging Pain

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|---|------------|----------|----------|-----------|----------|-----------------|-------------|-------|------------------|--------------------------|------------|----------------------|
| Pharmacologic Analgesics - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Gabapentin | T | Routine | | | 100 | MG | Capsule | Oral | 3 times a day | <input type="checkbox"/> | | Hold for sedation |
| <input type="checkbox"/> Amitriptyline | T | Routine | | | 25 | MG | Tablet | Oral | once a day (at.. | <input type="checkbox"/> | | |

Muscle Spasm (avoid in patients over 65 years of age)

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|--|------------|----------|----------|-----------|----------|-----------------|-------------|-------|------------------|-------------------------------------|------------|----------------------|
| Muscle Spasm - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Methocarbamol | T | Routine | | | 500 | MG | Tablet | Oral | 3 times a day... | <input checked="" type="checkbox"/> | Spasm | |
| <input type="checkbox"/> TIZANidine | T | Routine | | | 4 | MG | Tablet | Oral | 2 times a day | <input checked="" type="checkbox"/> | Spasm | < 90 OR HR < 60 |

Localized Pain (consider acute pain consult for regional analgesia as appropriate)

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|---|------------|----------|----------|-----------|----------|-----------------|-------------|---------|----------------|-------------------------------------|----------------------------------|---|
| Localized Pain - 3 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Capsaicin topical 0.025% cream | T | Routine | 1 | | | | Application | Topical | 3 times a day | <input checked="" type="checkbox"/> | Pain | Gently rub into affected area until absorbed. Wash hands after... |
| <input type="checkbox"/> Trolamine salicylate topical 10% cream | T | Routine | 1 | | | | Application | Topical | 3 times a day | <input checked="" type="checkbox"/> | Pain | Gently rub into affected area until absorbed. Only apply to intact. |
| <input type="checkbox"/> Lidocaine topical 5% film | T | Routine | | | 1 | | patch | Film | every 24 hours | <input type="checkbox"/> | | Apply immediately after opening to most painful area of intact... |
| Generalized Pain - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> CloNIDine | T | Routine | | | 0.1 | MG | Tablet | Oral | 2 times a day | <input type="checkbox"/> | | For pain. Hold for SBP < 90 OR HR < 60 |
| <input type="checkbox"/> traMADOL | T | Routine | 50 | | | MG | Tablet | Oral | every 4 hours | <input checked="" type="checkbox"/> | Pain unresponsive to non-opioids | Hold for sedation |

3rd Line Pharmacologic Analgesics for Refractory Pain

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|-------|------------|----------|----------|-----------|----------|-----------------|-------------|-------|-----------|-----|------------|----------------------|
|-------|------------|----------|----------|-----------|----------|-----------------|-------------|-------|-----------|-----|------------|----------------------|

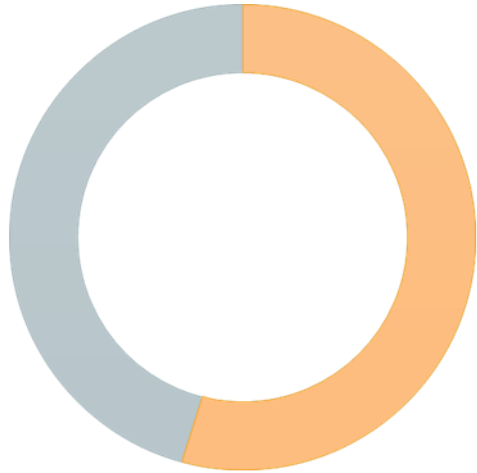
Non-pharmacologic

Acetaminophen and NSAIDS

Adjuvants & anti-spasmodics

Topicals

Program Results



57%

Reduction
in patients
receiving
high-risk
regimens



1,300

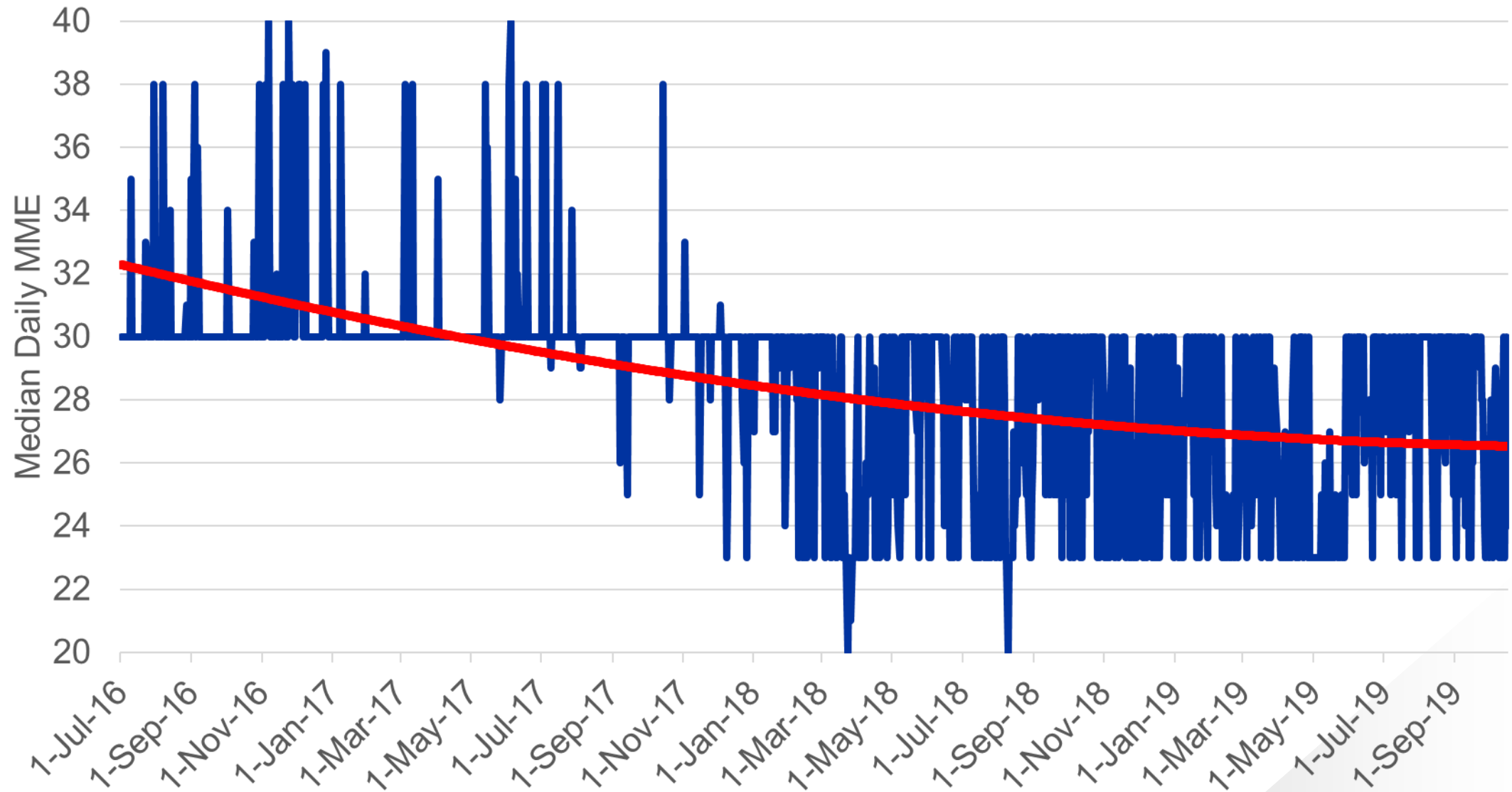
Opioid
prescriptions
avoided
annually



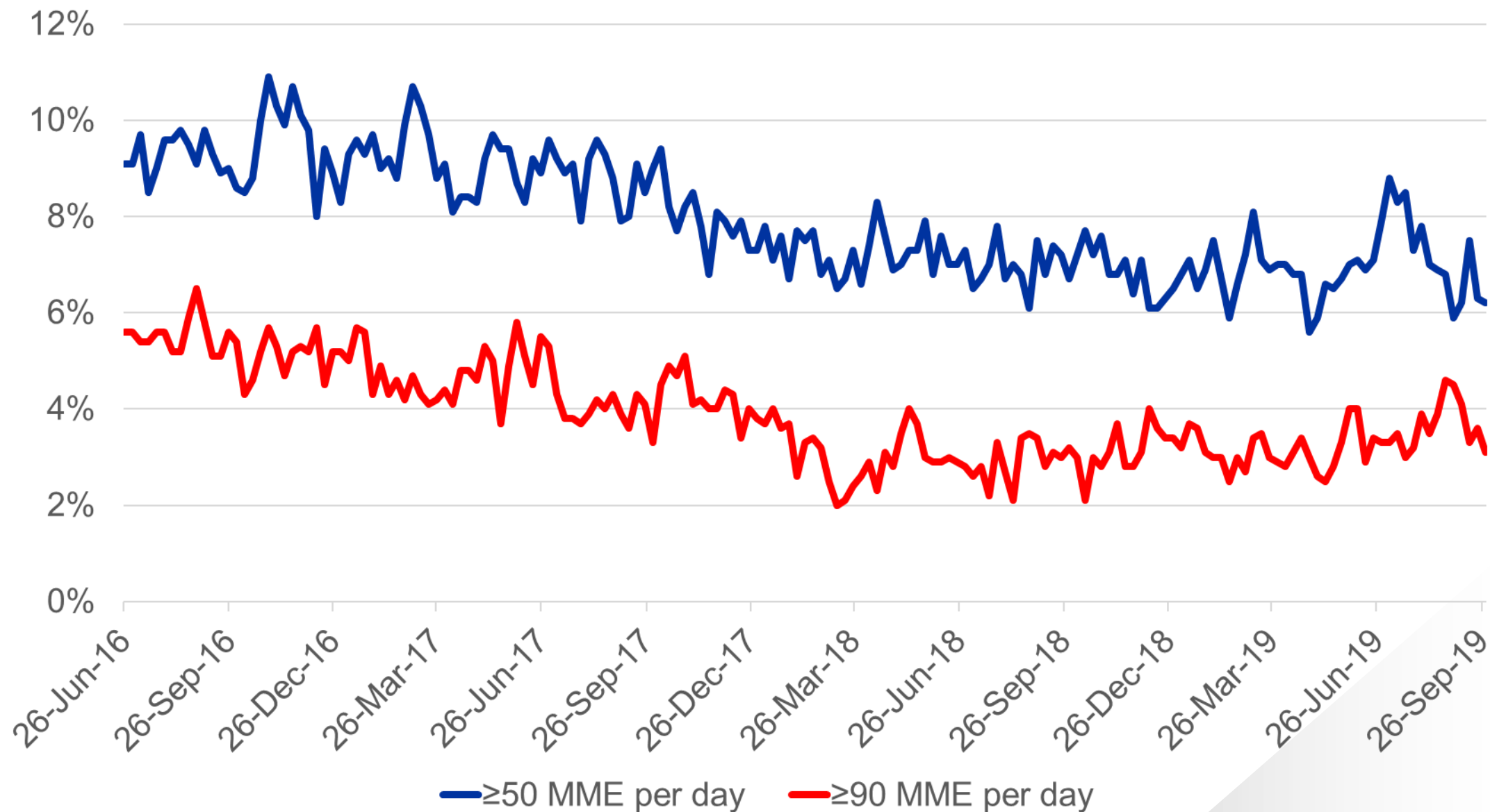
250,000

Fewer
opioid pills
dispensed

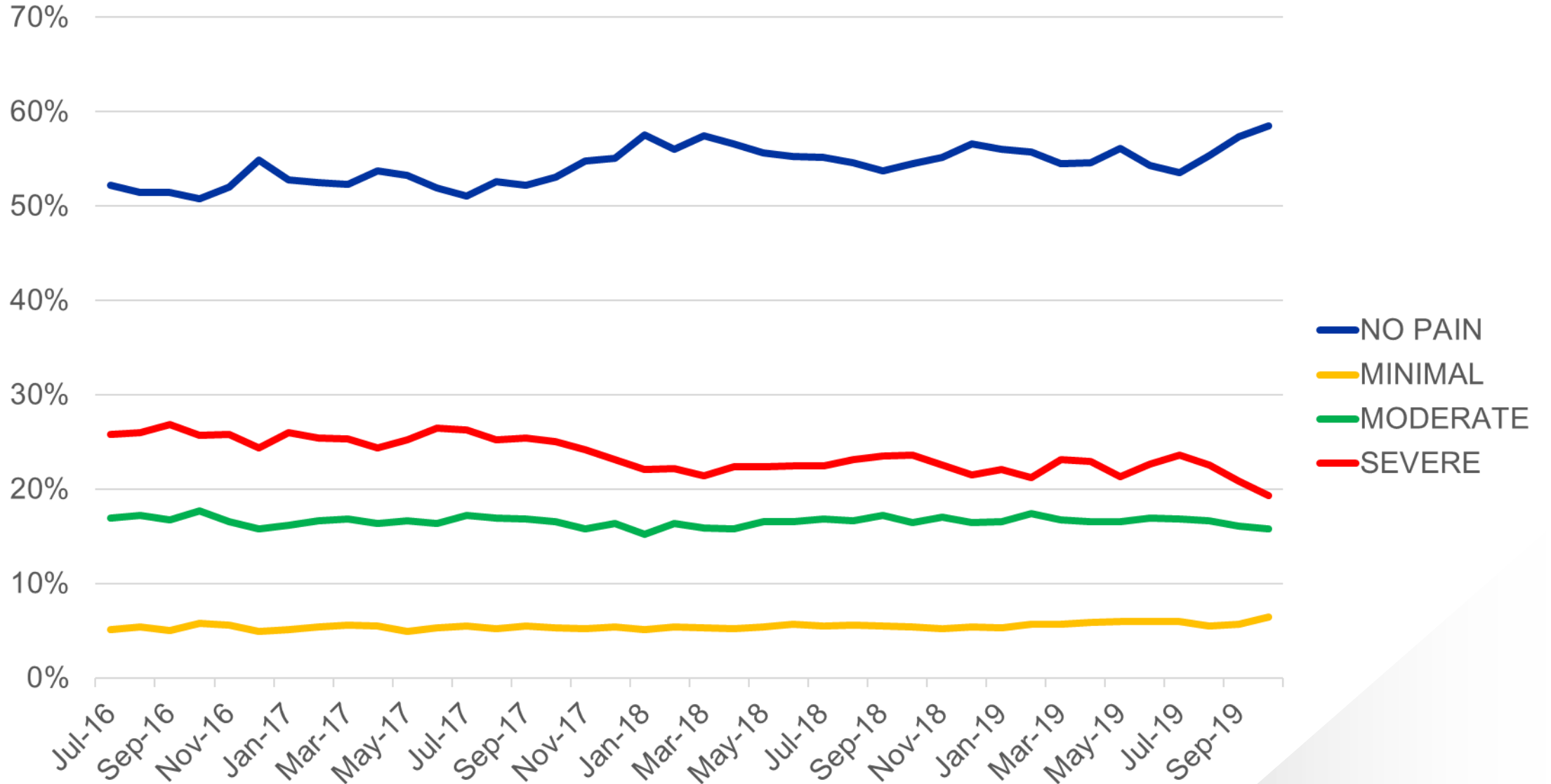
Daily Opioid Dose per Patient



Patients Receiving High Dose Regimens



Pain Control



Opioid Initiation at Hospital Discharge



Acute Pain Order Set

COM - Adult - Analgesia (Non-Intubated) [0 orders of 27 are selected]

Date: 18-Jan-2018
 Ordering Service:
 Supervising Attending:
 Ordering Physician Pager:
 Clinical Decision Support:
[Click Here For Ordering Guidance -->](#)

Note for prescriber: Review KASPER report and continue home analgesic regimen as appropriate.

Nursing Orders

| Order | Date | Priority | Frequency | Special Instructions |
|--|------|----------|-----------|--|
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Utilize aromatherapy as appropriate |
| <input type="checkbox"/> Heating Pad | T | Routine | | Apply for 15-20min at a time, then off for 15-20min |
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Cold Therapy: Apply for 15-20min at a time, then off for 15-20min |
| <input type="checkbox"/> Special Order - Nursing | | Routine | | Use opioids only for pain that is refractory to ordered non-opioid and non-pharmacologic measures, including |
| <input type="checkbox"/> Education Packet | T | Routine | once | Print KRAMES education "Pain Control: A Narcotic May Not Be The Best Medicine" |

Non-pharmacologic

Medications
1st Line Pharmacologic Analgesics

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|---|------------|----------|----------|-----------|----------|-----------------|-------------|---------------|---------------|--------------------------|------------|----------------------|
| Pharmacologic Analgesics - 4 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Acetaminophen | T | Routine | | | 1000 | MG | Tablet | Oral | every 6 hours | <input type="checkbox"/> | | |
| <input type="checkbox"/> Ibuprofen | T | Routine | 400 | | | MG | Tablet | Oral | every 6 hours | <input type="checkbox"/> | | |
| <input type="checkbox"/> Celecoxib | T | Routine | | | 100 | MG | Capsule | Oral | 2 times a day | <input type="checkbox"/> | | |
| <input type="checkbox"/> Ketorolac Inj. | T | Routine | | | 15 | MG | Solution | IntraVenously | every 6 hours | <input type="checkbox"/> | | |

Acetaminophen and NSAIDS

2nd Line Pharmacologic Analgesics (based on type of pain) Neuropathic, Burning, Tingling, Shooting, or Stinging Pain

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|--|------------|----------|----------|-----------|----------|-----------------|-------------|-------|-------------------|--------------------------|------------|----------------------|
| Pharmacologic Analgesics - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Gabapentin | T | Routine | | | 100 | MG | Capsule | Oral | 3 times a day | <input type="checkbox"/> | | Hold for sedation |
| <input type="checkbox"/> Amitriptyline | T | Routine | | | 25 | MG | Tablet | Oral | once a day (at..) | <input type="checkbox"/> | | |

Adjuvants & anti-spasmodics

Muscle Spasm (avoid in patients over 65 years of age)

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|--|------------|----------|----------|-----------|----------|-----------------|-------------|-------|------------------|-------------------------------------|------------|----------------------|
| Muscle Spasm - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Methocarbamol | T | Routine | | | 500 | MG | Tablet | Oral | 3 times a day... | <input checked="" type="checkbox"/> | Spasm | |
| <input type="checkbox"/> TIZANidine | T | Routine | | | 4 | MG | Tablet | Oral | 2 times a day | <input checked="" type="checkbox"/> | Spasm | < 90 OR HR < 60 |

Localized Pain (consider acute pain consult for regional analgesia as appropriate)

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|---|------------|----------|----------|-----------|----------|-----------------|-------------|---------|----------------|-------------------------------------|----------------------------------|---|
| Localized Pain - 3 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> Capsaicin topical 0.025% cream | T | Routine | 1 | | | Application | | Topical | 3 times a day | <input checked="" type="checkbox"/> | Pain | Gently rub into affected area until absorbed. Wash hands after... |
| <input type="checkbox"/> Trolamine salicylate topical 10% cream | T | Routine | 1 | | | Application | | Topical | 3 times a day | <input checked="" type="checkbox"/> | Pain | Gently rub into affected area until absorbed. Only apply to intact. |
| <input type="checkbox"/> Lidocaine topical 5% film | T | Routine | | | 1 | patch | Film | Topical | every 24 hours | <input type="checkbox"/> | | Apply immediately after opening to most painful area of intact... |
| Generalized Pain - 2 item(s) | | | | | | | | | | | | |
| <input type="checkbox"/> CloNIDine | T | Routine | | | 0.1 | MG | Tablet | Oral | 2 times a day | <input type="checkbox"/> | | For pain. Hold for SBP < 90 OR HR < 60 |
| <input type="checkbox"/> traMADOL | T | Routine | 50 | | | MG | Tablet | Oral | every 4 hours | <input checked="" type="checkbox"/> | Pain unresponsive to non-opioids | Hold for sedation |

Topicals

3rd Line Pharmacologic Analgesics for Refractory Pain

| Order | Start Date | Priority | Low Dose | High Dose | Set Dose | Unit of Measure | Dosage Form | Route | Frequency | PRN | PRN Reason | Special Instructions |
|-------|------------|----------|----------|-----------|----------|-----------------|-------------|-------|-----------|-----|------------|----------------------|
|-------|------------|----------|----------|-----------|----------|-----------------|-------------|-------|-----------|-----|------------|----------------------|

Drug Info

Order Set Utilization

N=5,019 distinct orders via order set 1/1/19-9/30/19

| Service Area | Number of Times Used |
|--------------------|----------------------|
| Internal Medicine | 1,118 |
| EGS/Trauma | 1,040 |
| General Surgery | 455 |
| MICU | 332 |
| CT Surgery | 273 |
| Orthopedic Surgery | 249 |
| Surgical Oncology | 188 |
| Cardiology | 184 |
| Vascular Surgery | 164 |
| Community Medicine | 117 |
| Urology | 113 |

Impact on Outcomes

July 2016 vs. July 2019

| Metric | Overall Institution | | Internal Medicine | | Trauma | | General Surgery | |
|------------------------------------|---------------------|-------|-------------------|-------|--------|-------|-----------------|-------|
| | 2016 | 2019 | 2016 | 2019 | 2016 | 2019 | 2016 | 2019 |
| Average daily MME per patient | 30 | 25 | 30 | 28 | 40 | 30 | 30 | 22.5 |
| Patients receiving >90 MME per day | 5.07% | 2.90% | 8.67% | 4.98% | 6.88% | 3.39% | 3.51% | 3.02% |
| Average daily pain score | 2.78 | 2.89 | 3.33 | 3.01 | 5.03 | 4.50 | 5.06 | 4.19 |

Key Takeaways

- Opioid prescribing continues to play a role in the opioid crisis, but it's just one piece of the puzzle.
- An effective response requires buy-in from leadership and key stakeholders (e.g., prescribers, patients, other health care providers).
- The goal isn't "minimizing" or "eliminating" opioids; the goal is ensuring we treat pain adequately and responsibly with minimal risk.

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(The Power of) advanced medicine

Thank You

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