# Exploring the Roles of the Inpatient Analgesic Stewardship Pharmacist
## A *Vital* Member of the Interdisciplinary Pain Management Team

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# Disclosures

There are no financial conflicts of interest nor commercial affiliations to disclose.

# Learning Objectives

- Compare and contrast opioid vs analgesic stewardship
- When given an example of an inpatient pain pharmacist's role, provide one example of a stewardship activity the pharmacist can perform to successfully provide safe and effective patient care and/or support institutional goals.
- List at least three major benefits an inpatient pain management pharmacist provides

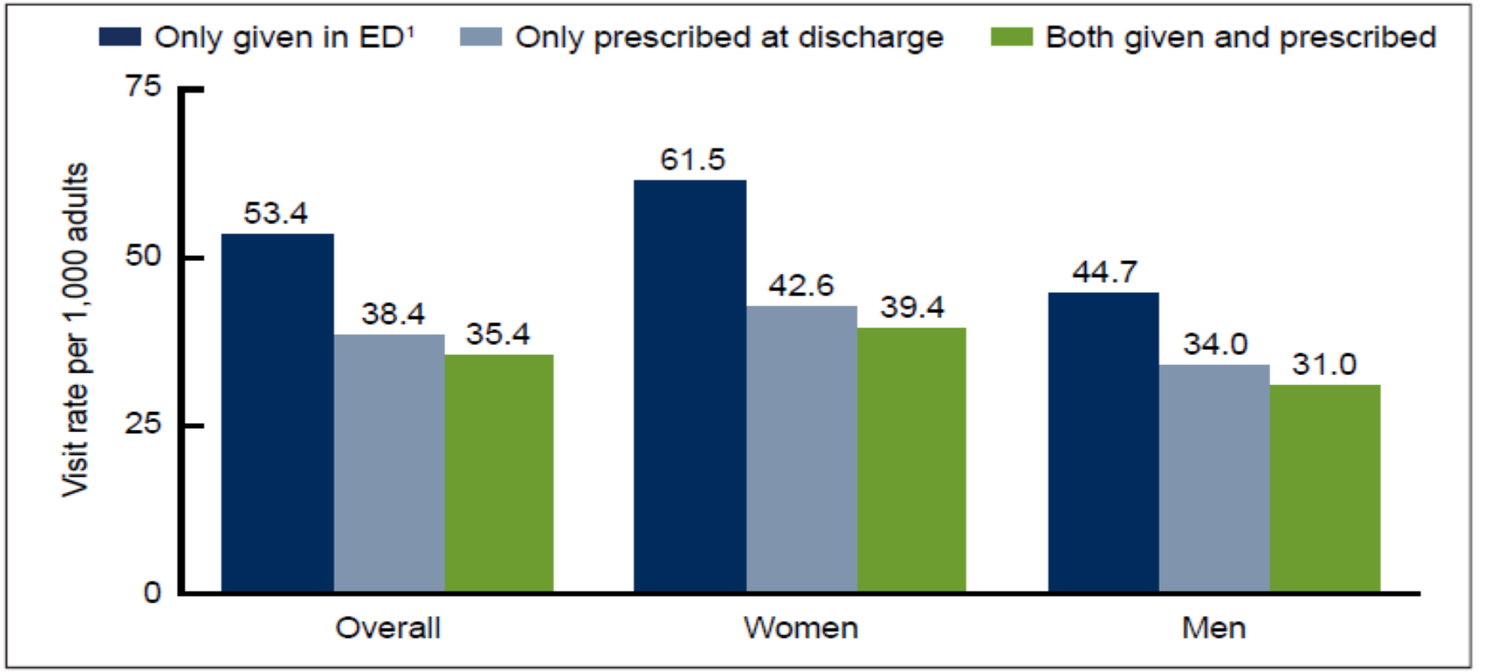
# Acute Pain and Opioids

- Common presenting complaint for most patients
- Uncontrolled pain causes physiologic and psychologic problems
- Uncontrolled pain increases hospital lengths of stay, readmission rates, prolongs analgesic use
- Opioids are commonly used for pain management in the hospital setting
- Most hospital monitoring protocols incorporate a unidimensional pain assessment tool
  - "The number" is the driver for analgesic interventions vs patient functionality, leading to opioid over-utilization
- Opioid over-utilization can precipitate preventable adverse events and longer lengths of stay
- Opioid regimens are not deescalated prior to discharge

Hyland SJ et al, Acute Pain Management Pearls: A Focused Review for the Hospital Clinician. *Healthcare* 2023, 11, 34.
Donohue JM et al. Patterns of Opioid Administration Among Opioid-Naive Inpatients and Associations With Post-discharge Opioid Use: A Cohort Study. *Ann Intern Med.* 2019 Jul 16;171(2):81-90.
Mazurenko, *et al.* Clinical perspectives on hospitals' role in the opioid epidemic. *BMC Health Serv Res* 20, 521 (2020).

# Hospital Opioid Utilization

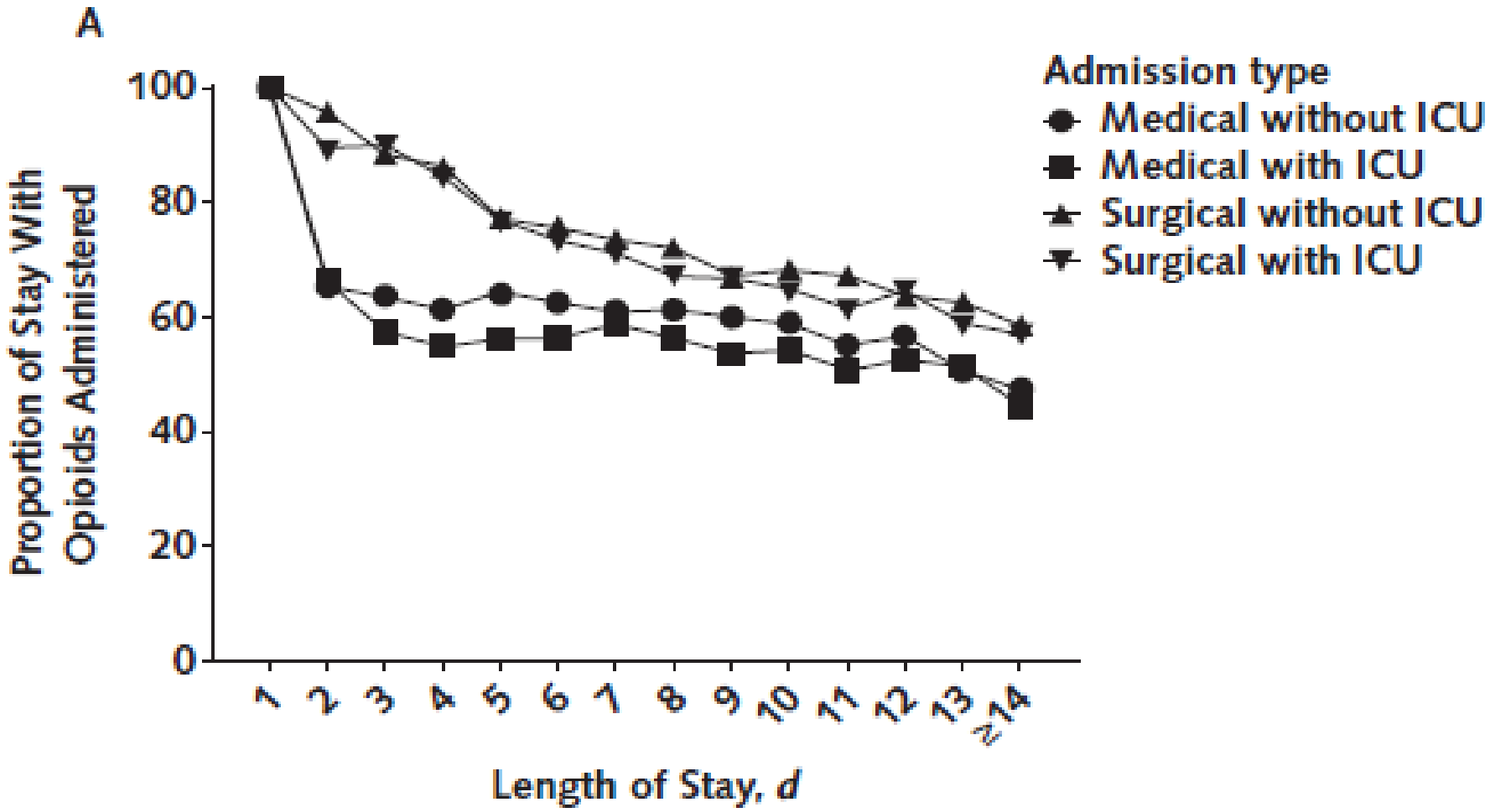
Figure 1. Rate of emergency department visits with opioids given in emergency departments, prescribed at discharge, or both, per 1,000 adult women and men: United States, 2016




[1]Estimate for women is significantly different than estimate for men.
NOTES: Estimate for only given in ED is significantly different than estimates for only prescribed at discharge and both given and prescribed. ED is emergency department. Visits with opioids given in ED, prescribed at discharge, or both are defined using the Cerner Multum's Lexicon third level therapeutic category codes 60 (narcotic analgesics) and 191 (narcotic analgesic combinations). Data for 0.2% of visits with missing given or prescribed status are not shown. Visit rates are based on the July 1, 2016, set of estimates of the civilian noninstitutionalized population developed by the U.S. Census Bureau's Population Division. Access data table for Figure 1 at: https://www.cdc.gov/nchs/data/databriefs/db338_tables-508.pdf#1.
SOURCE: National Hospital Ambulatory Medical Care Survey, 2016.

Rui P, Schappert SM. Opioids prescribed at discharge or given during emergency department visits among adults in the United States, 2016. *NCHS Data Brief*, No 338. Hyattsville, MD: National Center for Health Statistics. 2019.

# Hospital Opioid Utilization

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# Consequences of Inpatient Opioid Exposure

*Table 2.* Association Between Inpatient Opioid Use and Subsequent Outpatient Opioid Use, Death, and Readmission at 90 and 365 Days After Discharge*

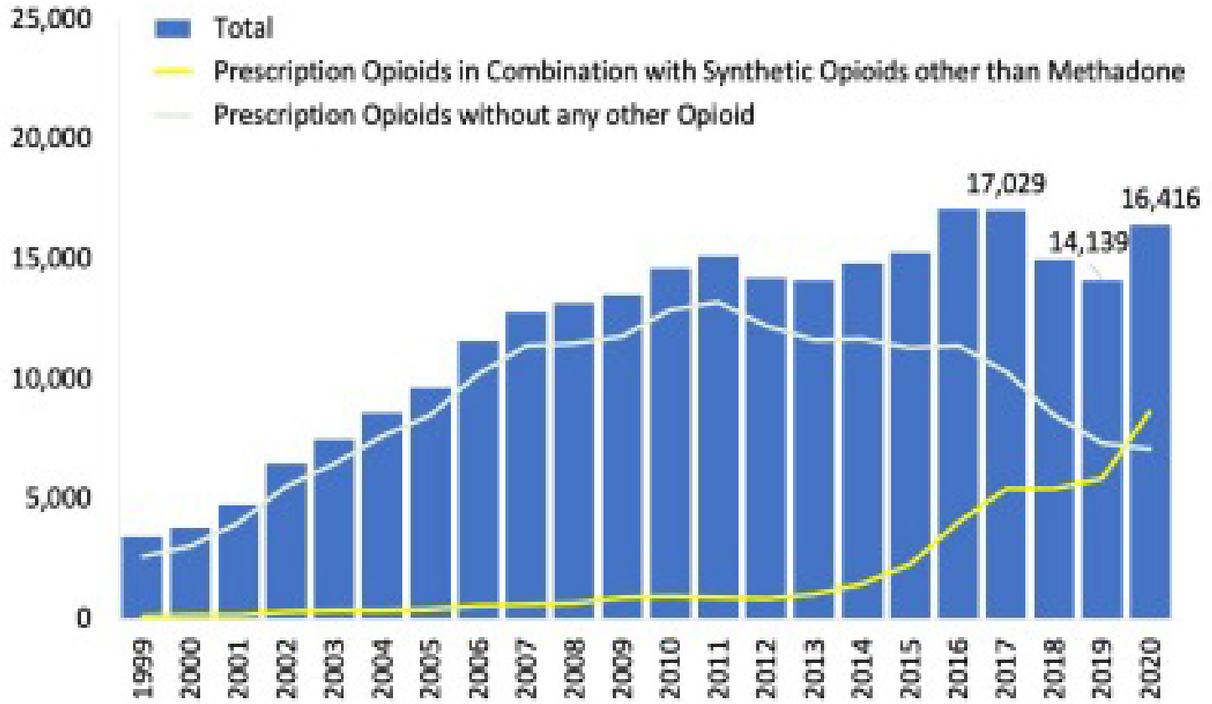
| Outcome | No Inpatient Opioid Use, % | Inpatient Opioid Use, % | Difference (95% CI), *percentage points* |
|---|---|---|---|
| **90 d** | | | |
| Outpatient opioid use | 3.0 (2.8 to 3.1) | 5.9 (5.7 to 6.1) | 3.0 (2.8 to 3.2) |
| No outpatient opioid use/death/readmission | 74.7 (74.3 to 75.0) | 72.2 (71.9 to 72.6) | −2.5 (−2.9 to −2.1) |
| Death | 0.2 (0.2 to 0.2) | 0.3 (0.2 to 0.3) | 0.1 (0.0 to 0.1) |
| Readmission | 22.2 (21.9 to 22.5) | 21.6 (21.3 to 21.9) | −0.6 (−0.9 to −0.3) |
| **365 d** | | | |
| Outpatient opioid use | 4.3 (4.2 to 4.5) | 7.7 (7.5 to 7.9) | 3.4 (3.2 to 3.6) |
| No outpatient opioid use/death/readmission | 54.6 (54.3 to 55.0) | 52.9 (52.5 to 53.3) | −1.7 (−2.1 to −1.3) |
| Death | 0.7 (0.7 to 0.8) | 0.7 (0.6 to 0.8) | −0.0 (−0.1 to 0.0) |
| Readmission | 40.3 (39.9 to 40.7) | 38.7 (38.3 to 39.1) | −1.6 (−2.0 to −1.2) |

HCUP CCS = Healthcare Cost and Utilization Project Clinical Classifications Software; ICU = intensive care unit.
* Includes 182 917 cases with complete data from 191 249 inpatient stays for opioid-naive patients. The table shows predicted margins obtained from 2 multinomial logistic regression models (full results shown in Supplement Tables 2 and 3 [available at Annals.org]) that included an indicator of any inpatient opioid use and adjusted for the following covariates: age, sex, race, year of admission, payment source for hospital stay (e.g., Medicare or Medicaid), Elixhauser Comorbidity Index score, admission type (medical with no ICU stay, medical with ICU stay, surgical with no ICU stay, or surgical with ICU stay), length of stay, hospital fixed effects, HCUP CCS comorbid conditions, and history of benzodiazepine use. Outpatient opioid use at 90 and 365 d after discharge was the key outcome of interest, and death and readmission (both measured ≤90 d after discharge) were treated as competing risks and thus as separate levels of the outcome. Robust SEs were used to account for within-patient correlation.

Donohue JM et al. Patterns of Opioid Administration Among Opioid-Naive Inpatients and Associations With Post-discharge Opioid Use: A Cohort Study. Ann Intern Med. 2019 Jul 16;171(2):81-90.
"Free Access" Journal that permits figure downloads to PowerPoint within the article (https://www.acpjournals.org/doi/10.7326/M18-2864?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200pubmed)

# Consequences of Inpatient Opioid Exposure

**Figure 4. National Overdose Deaths Involving Prescription Opioids*, Number Among All Ages, 1999-2020**




*Among deaths with drug overdose as the underlying cause, the prescription opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2) or methadone (T40.3). Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2020 on CDC WONDER Online Database, released 12/2021.

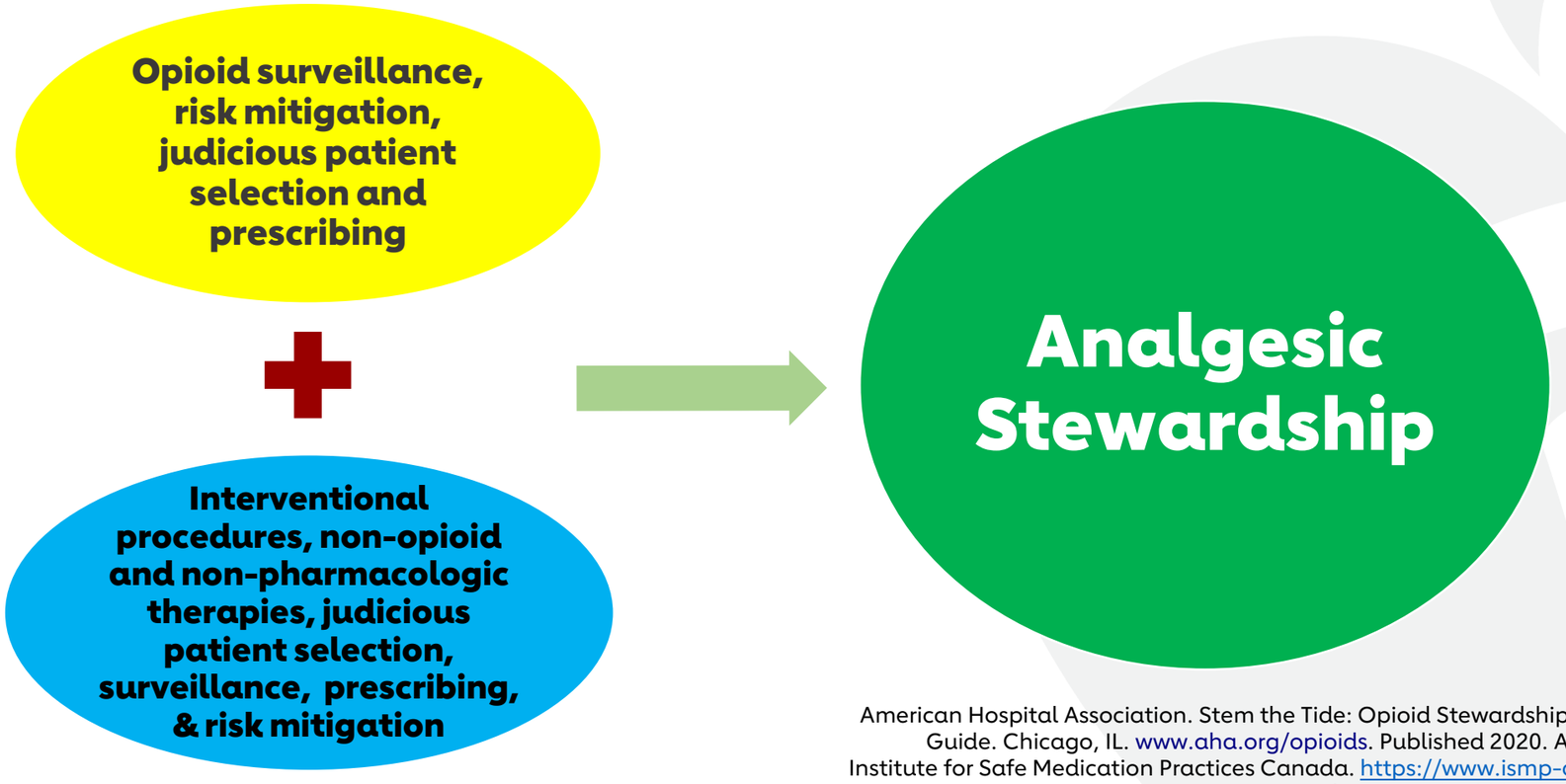
National Institute on Drug Abuse. Trends & Statistics. Overdose Death Rates. https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates Last accessed on January 13, 2023

# Opioid Stewardship vs Analgesic Stewardship

"Opioid stewardship is the commitment to safe prescribing so that the right patient receives the right opioid for the right indication and the right length and dose of treatment." American Hospital Assoc.

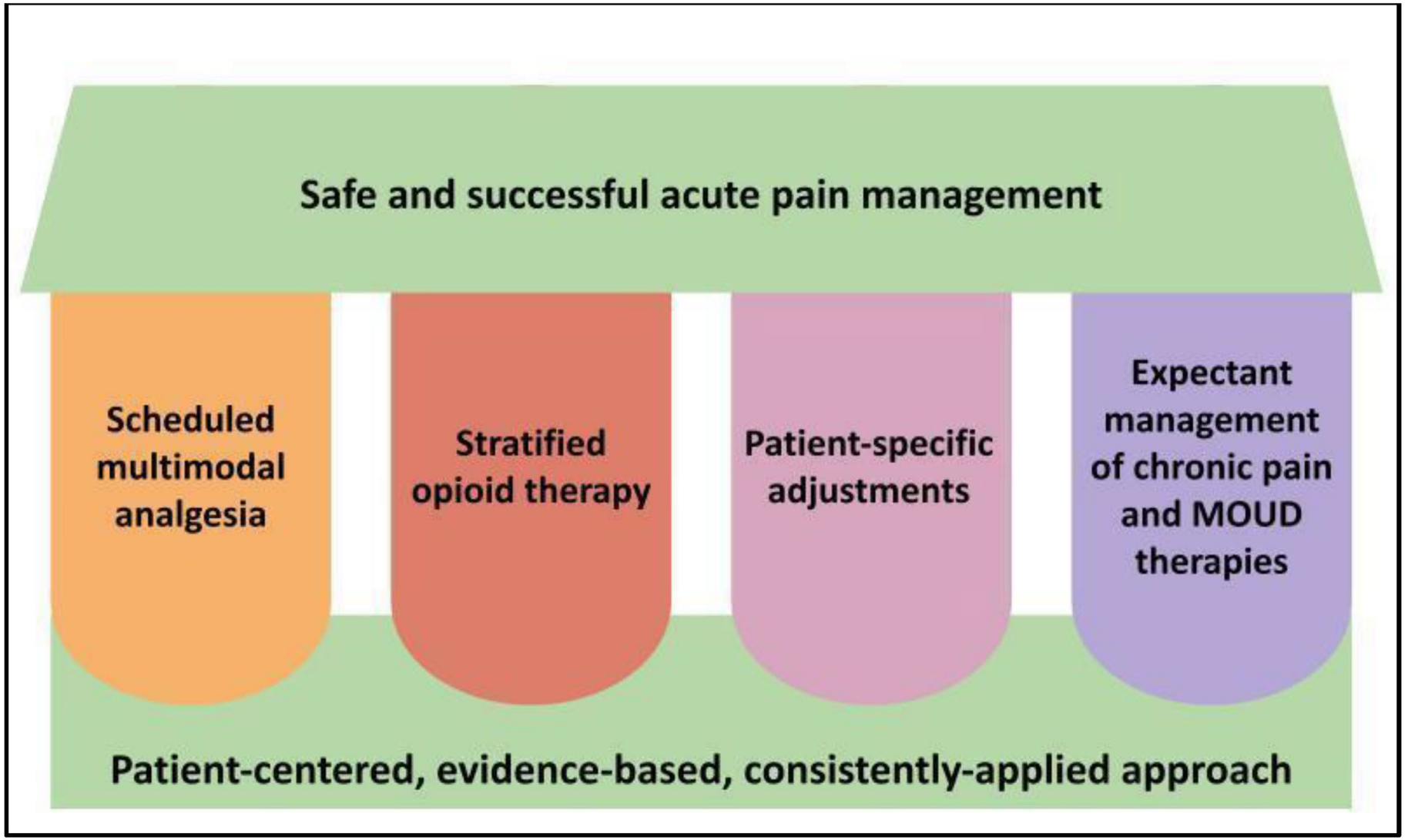
"Opioid Stewardship may be described as coordinated interventions designed to improve, monitor, and evaluate the use of opioids in order to support and protect human health" ISMP Canada

Analgesic Stewardship *extends beyond opioid surveillance, use, and risk mitigation* AND *encompasses all aspects of pain management* (e.g., non-opioid therapy, interventional procedures, physical therapy and rehabilitative medicine)




American Hospital Association. Stem the Tide: Opioid Stewardship Measurement Implementation Guide. Chicago, IL. www.aha.org/opioids. Published 2020. Accessed January 10, 2023
Institute for Safe Medication Practices Canada. https://www.ismp-canada.org/opioid_stewardship/ Accessed January 17. 2023

# Pain Management: Goals of Care




Hyland SJ, et al. Acute Pain Management Pearls: A Focused Review for the Hospital Clinician. *Healthcare* (Basel). 2022 Dec 22;11(1):34
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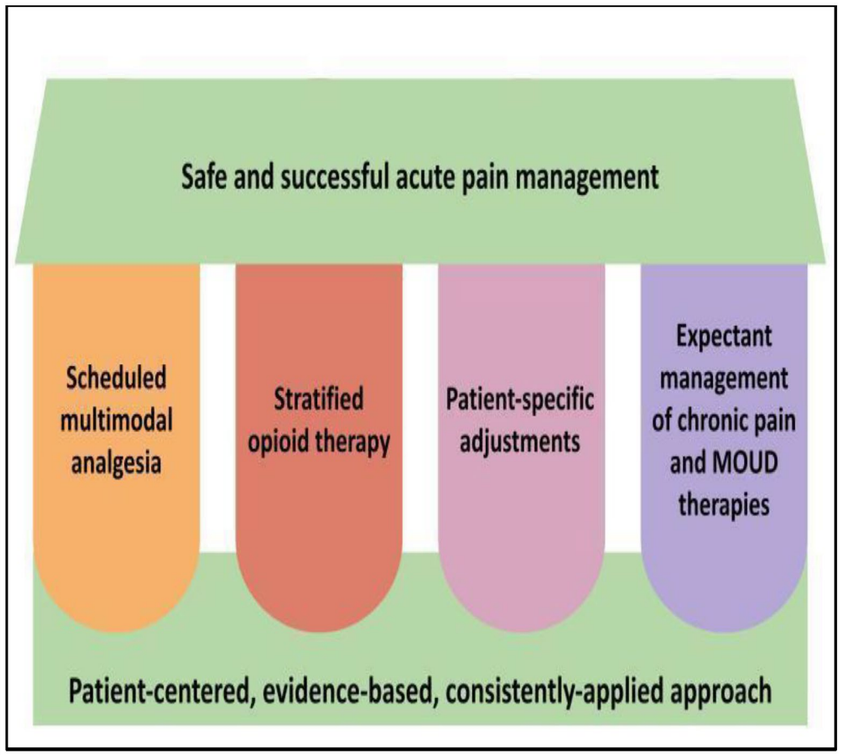
# An Interdisciplinary Approach is Required

"Pain cannot be managed alone by any one discipline or individual…"

Practice silos impede patient centered care

## Core Interdisciplinary Team

- Physician
  - Hospitalist, Emergency Medicine, Palliative Care, Surgeon, Psychiatrist
- Pharmacist
- Nurse
- Other Disciplines
  - Physical and Occupational Therapy
  - Transitions of Care or Care Coordination Team
  - Chaplain

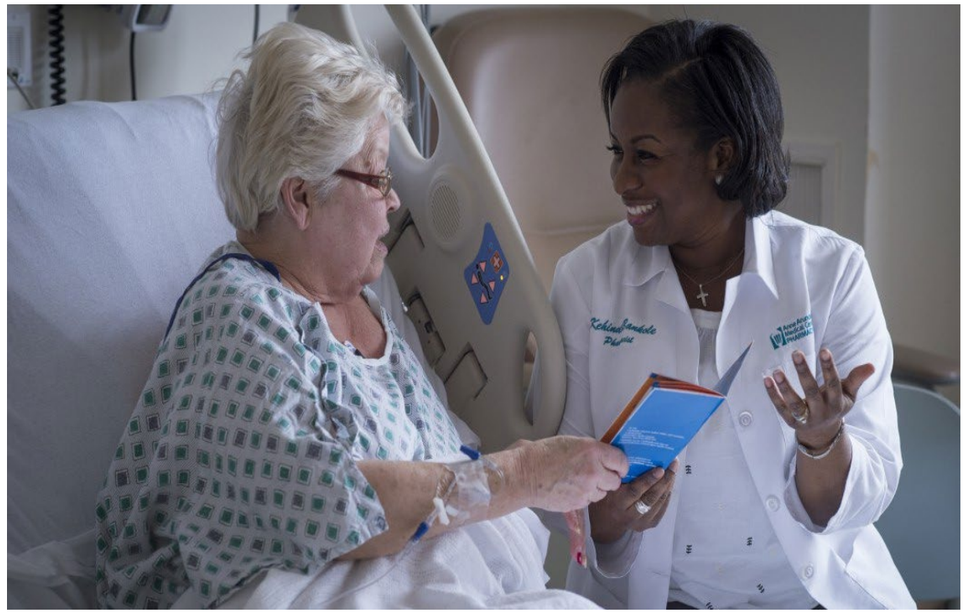



Anderson WG, Liao S. Society of Hospital Medicine. *Improving Pain Management for Hospitalized Medial Patients: A Society of Hospital Medicine Implementation Guide.*
Hyland SJ, et al. Acute Pain Management Pearls: A Focused Review for the Hospital Clinician. *Healthcare* (Basel). 2022 Dec 22;11(1):34.

# Pain Management Pharmacist

Every pharmacist should be able to assess and manage pain, with particular focus on pharmacological interventions. IASP

- Pharmacodynamic, pharmacokinetic, drug interaction experts
  - Pain Management Postgraduate training
  - Positioned to assess: Analgesia, Adverse Effects, Activities of Daily Living, and Aberrant Behaviors
  - Produce positive outcomes when integrated into inpatient interdisciplinary analgesic stewardship programs



https://www.iasp-pain.org/education/curricula/iasp-curriculum-on-pain-for-pharmacy/
https://www.pharmacytimes.com/view/pain-management-the-pharmacists-evolving-role
https://living.aahs.org/healing/making-the-pharmacist-an-essential-part-of-the-patient-care-team/

# Pain Management Pharmacist Competencies

"Pharmacists and providers should demonstrate and be evaluated on core competencies in evidence-based practices related to pain management…"

## The International Association for the Study of Pain for Pharmacy Curriculum

1. Describe neurophysiology as it relates to normal sensory transmission
2. Explain the pathogenesis of pain, including hyperalgesia, peripheral sensitization, and central sensitization
3. Classify pain syndromes (e.g., acute, subacute, chronic, nociceptive, nociplastic, neuropathic, inflammatory, central, or mixed)
4. Possess current and sufficient understanding of the pharmacology of non-opioid, adjuvant, and opioid analgesics at a level to provide instruction to the patient and other members of the health-care team
5. Recommend evidence-based use of rational pharmacotherapy for individual pain syndromes based on patient-specific, drug-specific, and environmental-specific variables
6. Contribute to the assessment of the patient in pain, including unidimensional and multidimensional rating scales, patient interviews, and limited physical assessment, where applicable
7. Participate in the goal-setting and ongoing education of the patient with pain
8. Provide assistance in the overall risk-avoidance plan when opioids are used for pain control
9. Understand and assume an active role within the interdisciplinary team

Report of the ASHP Opioid Task Force. *Am J Health-Syst Pharm.* 2020;77:1158-1165
https://www.iasp-pain.org/education/curricula/iasp-curriculum-on-pain-for-pharmacy/

# Pain Management Pharmacist's Role


Journal of Pain & Palliative Care Pharmacotherapy

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## Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists

Sandra DiScala, Tanya J. Uritsky, Michelle E. Brown, Stephanie M. Abel, Nicole T. Humbert & Dharma Naidu

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ASHP REPORT

## Report of the ASHP Opioid Task Force

Joseph A. Oddis Global Headquarters of ASHP

Bethesda, MD

October 2-3, 2019

Am J Health-Syst Pharm. 2020;77:1158-1165

DiScala et al, Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists, *Journal of Pain & Palliative Care Pharmacotherapy*, DOI: 10.1080/15360288.2022.2149670
Report of the ASHP Opioid Task Force, *American Journal of Health-System Pharmacy*, Volume 77, Issue 14, 15 July 2020, Pages 1158–1165, https://doi.org/10.1093/ajhp/zxaa117

# Potential Inpatient Pain Pharmacist Roles

## SPPCP White Paper Recommendations

- Implement opioid stewardship programs (OSPs) where a full-time pharmacist is incorporated into opioid and non-opioid therapy optimization
  - The pharmacist's role is dependent upon the organization's needs




DiScala et al, Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists, *Journal of Pain & Palliative Care Pharmacotherapy*, DOI: 10.1080/15360288.2022.2149670

# Potential Pain Management Pharmacist Roles

## SPPCP White Paper Recommendations

**Table 2.** Inpatient and outpatient opioid stewardship pharmacist tasks and responsibilities.

| Inpatient-specific | Outpatient-specific | Joint (inpatient and outpatient) |
|---|---|---|
| • Participate in key inpatient regulatory teams (e.g., medication safety, quality management, pharmacy and therapeutics)<br>• Chair a team of interdisciplinary members to advocate for pain management strategies<br>• Serve as an Opioid stewardship consultant for perioperative and post-acute care facilities<br>• Review pain assessment documentation, review PRN medication utilization, ensure monitoring for opioid adverse effects, increase MOUD access<br>• Develop safe and effective guidelines for prescribing opioids for acute pain management<br>• Provide academic detailing for prescribers<br>• Act as liaison between prescriber and patient advocate departments to ensure safe prescribing<br>• Identify and prevent controlled substance diversion<br>• Ensure safe opioid prescribing during transitions of care | • Support opioid tapering or reassessment clinics<br>• Create educational resources for providers, staff, patients, and community members<br>• Design and facilitate educational classes focused on pre-surgery expectations, acute pain, chronic pain, and/or opioid use disorder<br>• Create individualized pain management assessments and interventions in outpatient clinics<br>• Screen for history or potential for substance use disorder<br>• Ensure proper escalation of outpatient pain management strategies<br>• Manage patient expectations by providing consistent messaging alongside providers<br>• Ensure access to needed analgesics and MOUD<br>• Development of safe and effective guidelines for prescribing opioids for chronic pain management | • Participate in an interdisciplinary pain management team<br>• Develop policies and protocols<br>• Provide patient and prescriber education<br>• Perform utilization review<br>• Engage in quality improvement efforts<br>• Track and analyze pain-related metrics<br>• Align the health system goals of opioid stewardship with regulatory bodies<br>• Develop clinical decision support tools to guide safe opioid prescribing<br>• Monitor and address trends of undertreated pain among groups of people with disparities in pain management<br>• Screen risk factors for opioid-related adverse events<br>• Increase utilization of non-opioid therapies based on patient-specific factors<br>• Increase utilization of non-pharmacological modalities<br>• Provide pain regimen optimization to support patient-centered care while incorporating risk mitigation strategies |

MOUD = medications for opioid use disorder; PRN = pro re nata.

DiScala et al, Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists, *Journal of Pain & Palliative Care Pharmacotherapy*, DOI: 10.1080/15360288.2022.2149670

# ASHP Recommendations for Pain Management Pharmacists

## Domain 3

"...describe(s) the unique contribution of pharmacists, functioning as healthcare providers, [for] collaborative pain management and opioid stewardship strategies."

1. "Identify core pharmacist competencies for pain and opioid use disorder"
2. Serve an integral role within the interdisciplinary team "across the spectrum of pain management"
   - Opioid initiation
   - Identifying and preventing of opioid misuse
   - Treatment OUD
3. Evaluate analgesic interventions "to ensure safety and cost effectiveness."
4. Integrate multi-modal analgesic treatments into patient care
5. "Actively participate" in pain management and opioid quality assessments and outcomes measures

Report of the ASHP Opioid Task Force, *American Journal of Health-System Pharmacy*, Volume 77, Issue 14, 15 July 2020, Pages 1158–1165, https://doi.org/10.1093/ajhp/zxaa117

# Potential Pain Pharmacist Roles

American Heart Association.

## Risk Mitigation and Surveillance

- Naloxone surveillance
- Constipation prophylaxis regimens initiated on patients receiving opioids
- PCA initiation, Monitoring, length of therapy
- Identify Patients Vulnerable to Opioid & Non-Opioid Adverse Events
- Under-managed pain in under-served patients
- Opioid + BZD or other sedating medication combinations

## Data Analytics

- Trend iv opioid use and duration
- Trend non-opioid utilization for pain control
- MME prescribed at discharge
- 30-day readmissions for uncontrolled pain or opioid ADR

## Regulatory Compliance and Best Practice Guideline Adherence

- Ensure appropriate patient monitoring after medication administration
- Limit/DC fentanyl patch or LAO imitation for acute pain

## Institutional Analgesic Stewardship Committee(s) Leader & Utilization Reviewer

- Analgesic Order Set Review & Development
- Formulary Management
- Policy Development

## Direct Patient Care

- Pharmacy managed pain management consults
- Post-op
- Sickle Cell
- Opioid use disorder
- Opioid Dose Conversions and Calculations
- Discharge Planning/Transitions of Care
- Discharge Prescription Opioid Tapering Plans

## Patient and Provider Education

- Academic Detailing
- Establish pain goals and expectations (multi-dimensional progress vs pain score focus)
- Naloxone prescription rationale and administration technique


DiScala et al, Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists, *Journal of Pain & Palliative Care Pharmacotherapy*, DOI: 10.1080/15360288.2022.2149670

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Anderson WG, Liao S. Society of Hospital Medicine. *Improving Pain Management for Hospitalized Medial Patients: A Society of Hospital Medicine Implementation Guide*

# MORE Tool Part I

American Heart Association.

**Appendix 5 (part 1 of 2):** MORE Tool. © 2018 Providence Health Care Pharmacy Department. Reproduced with permission.

**Intended for use in patients with non-cancer pain**

## M — Medication and Safety Review

### Review Opioid Orders

**Suboptimal Dose, Route & Frequency**

- ☐ IV or SC route ordered when PO route is viable
- ☐ Excessively frequent regular dosing (< Q4H)
- ☐ Multiple PRN opioid orders
- ☐ PRN opioid order being used regularly
- ☐ Long acting opioids started for acute pain within first 5 days of hospital stay
- ☐ Order >10 MME/dose for opioid naïve patient

**Suboptimal Drug Combinations**

- ☐ Combinations of different opioids for acute pain are ordered*
- ☐ Benzodiazepines & opioids ordered together
- ☐ No adjunctive acetaminophen or NSAID ordered
- ☐ No other adjunctive pain medications ordered (i.e. for neuropathic pain)

*except methadone or fentanyl

### Assess for Increased Risk of ADR & Overdose

- ☐ Opioid naive
- ☐ Advanced age (>75 years old)
- ☐ Low BMI
- ☐ Kidney or liver impairment
- ☐ Dose of opioid rapidly increased in recent days-weeks

**Assess Pain Severity and Type**

**Is opioid therapy truly necessary for this patient?**

**If No -Stop opioid and use alternative; If Yes- Optimize**

## O — Optimize

### Optimize Opioid Regimen

- If patient has any risk factors for ADRs or Overdose (as noted above) start with lower initial doses
- Use oral route instead of parenteral whenever possible
- If PRN opioid alone ineffective, switch to regularly scheduled opioid Q4H or Q6H and Q1H or Q2H PRN (PRN = 10% daily dose). Use the same opioid for regular and PRN doses.
- Aim to limit duration of regular Rx for acute pain to 5 days
- If patient NOT opioid naïve assess for symptoms of withdrawal

**Use Adjunctive Rx**

- Acetaminophen 650-975 mg po qid
- NSAID (e.g. naproxen 500 mg PO BID)
- Other agents depending on etiology of pain (e.g. TCA or gabapentin for neuropathic pain)

**Avoid Benzodiazepines**

- Use non-benzodiazepine medications for HS sedation (consider trazodone, TCA., etc.)
- Use alternatives for other indications if appropriate
- Switch or stop short-term use BDZ (< 7 days)
- If appropriate taper off benzodiazepine if patient has been on long term

### Monitor and Treat Adverse Effects

**Sedation:**

- Reassess opioid regimen and lower dose

**Constipation:**

- Senna 17.2 mg po hs regular
- Bowel protocol

**Nausea**

- Usually transient, but can order dimenhydrinate 25-50 mg PO/IV/IM q4-6h PRN (max 400 mg/d)

**Pruritus**

- Switch to opioid with less peripheral activity
- Diphenhydramine 25-50 mg PO/IV/IM q6h PRN (max 400mg/d)

## R — Reassess and Refer for Risk

### Reassess Pain Management

- Reassess pain management within 24 hours after regimen change
- Monitor for side effects (sedation, dizziness, nausea, vomiting, constipation, respiratory depression)
- Adjust dose or switch to another opioid if necessary (due to side effects)

### Refer to Specialty Pain or Addiction Service*

- **If patient has ≥ 3 or risk factors* and opioid therapy likely to continue for more than 5 days OR any of the issues below, consider consulting Pain or Addictions Services** (if not already involved)
- If patient has ongoing pain >8/10 despite Rx and/or ongoing need for opioid after 5-7 days of Rx → **Consult Acute Pain Service**
- If patient has ongoing pain **AND** risk factors for SUD (see back page for risk factor checklist) → **Consult Addiction Medicine Consult Team**
- If patient requires >50* MME ongoing → **Consult Chronic Pain Service**

## E — Educate, Plan & Communicate

### Plan

- Set target stop date for opioid with plan to reassess pain & provide alternative non-opioid options as needed
- Continue opioid post discharge only if absolutely necessary
- Prescribe the minimum appropriate duration of discharge Rx

### Educate

- Review pain control plan with patient
- Counsel on pain management, side effects of opioids, appropriate use of non-opioid adjunctive agents, appropriate storage and disposal of any leftover supply of opioids
- Provide naloxone kit and teaching if discharged on >50 MME/day or if patient has a history of opioid use disorder

### Communicate

- Document plan and counseling in health care record
- Communicate medication changes made in hospital and plan to primary care provider/community pharmacy for ongoing pain management

Supplementary material for Woods B, Legal M, Shalansky S, Mihic T, Ma W. Designing a pharmacist opioid safety and intervention tool. *Can J Hosp Pharm.* 2020;73(1):7-12.
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# MORE Tool Part II

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### Risk for Substance Use Disorder

- ☐ History of any SUD
- ☐ Psychiatric diagnosis
- ☐ Family history of SUD
- ☐ PNET restriction or other indication of opioid misuse

### Risk Factors for Both SUD and Overdose

- ☐ Multiple overlapping fills of opioids on PNET
- ☐ Multiple prescribers for opioids on PNET
- ☐ Receiving > 50 MME of opioid/day (but less than 100 MME)
- ☐ Receiving over 100 MME of opioid/day (give 2 points)

### Morphine Milligram Equivalency Chart

| Opioid | Conversion Factor |
|---|---|
| Morphine | 1 |
| Codeine | 0.15 |
| Fentanyl transdermal (ug/h) | 2.4 |
| Hydromorphone | 4 |
| Oxycodone | 1.5 |

Conversion factor assumes the medication is given as the same dosage form (iv/po) with the exception of the Fentanyl transdermal patch.
Please note this is not a potency equivalency chart, rather a chart to easily convert current dosages of other opioids into Morphine Milligram Equivalents.

### Approach to Opioid Adverse Effects

**Sedation:**
Can be expected when first starting opioids in naïve patient, and will generally self-resolve within a short time
Assess patient for DIMS criteria if there is a significant change in LoC after being stabilized on an opioid dose
May require decrease in dose or switch to a different opioid
Monitor for signs of respiratory depression in patients that are heavily sedated

**Constipation:**
Bowel protocol should be used in all patients on a regular opioid medication
Non-pharmacological management is important including ensuring proper hydration and movement if possible

**Nausea**
PRN dosing of ant-emetics will be necessary when starting opioid medications in select patients
Generally subsides within days of starting opioid treatment
If persistent it would be reasonable to switching to a different opioid

**Pruritus**
Generally subsides with time
Switch to opioid with less peripheral activity
Diphenhydramine 25-50 mg PO/IV/IM q6h PRN (max 400mg/d)

### Medications for Opioid Adverse Effects

| | |
|---|---|
| **Constipation** | 1) Sennosides 12mg 2 tabs po qhs, increasing up to 3 tabs tid<br><br>2) Bisacodyl 5mg 2 tabs po daily<br><br>3) Glycerin suppository |
| **Nausea** | 1) Dimenhydrinate 25-50mg po/iv/im q4-6h prn (max 400mg/d)<br><br>2) Metoclopramide 5-10mg sc/iv/po q6h<br><br>3) Ondansetron 4-8mg po/iv q8h |
| **Pruritus** | 1) Diphenhydramine 25-50mg po/iv/im q6h PRN (max 400mg/d) |
| **Severe Respiratory Depression** | 1) Naloxone 0.1-0.2mg iv q 2-3 min until RR > 10<br>or<br>Naloxone 0.1-0.2mg sc q5-10min until RR > 10 |


1) Fischer B, Argento E. Prescription opioid related misuse, harms, diversion and interventions in Canada: a review. Pain Physician 2012;15:ES191-203.
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Supplementary material for Woods B, Legal M, Shalansky S, Mihic T, Ma W. Designing a pharmacist opioid safety and intervention tool. *Can J Hosp Pharm*. 2020;73(1):7-12.
Permission to reuse received via author and journal on 2/15/23

# My Practice: 2013-present

## Wellstar Cobb Medical Center-382 beds/Level III Trauma Center

- One dedicated pharmacy pain management specialist
  - Consultative services are provided five days a week from 8 am to 3:30 pm
    - Burn
    - Trauma
    - Heme/Onc
    - Post-operative pain (total joint, spine, large wound debridement)
    - Complex chronic pain patients (i.e., ongoing methadone or buprenorphine use)
    - Opioid withdrawal
  - Local and System-Wide Committee Leadership
  - Order Set Review
  - PGY1 and PGY2 Residency Training
- Unit based pharmacists provide ancillary stewardship activities and pain assessments
- Analgesic stewardship services
  - PDMP reviews/analgesic medication reconciliation
  - MOSS/POSS Surveillance
  - Morphine opioid rotations in renal dysfunction
  - PCA monitoring
  - Naloxone surveillance
  - Long-acting opioid use
  - Methadone safety
    - QT interval prolongation/Drug interactions
  - Opioid monotherapy avoidance
  - OIC prophylaxis surveillance
- Interdisciplinary Rounds

# Wellstar Pharmacist Analgesic Stewardship

1. Stewardship activities are governed by Wellstar Health System Policies
2. All Wellstar Cobb pharmacists receive analgesic stewardship training during orientation
3. Annual competencies are conducted to ensure practice proficiency and reinforce job expectations

https://www.iasp-pain.org/education/curricula/iasp-curriculum-on-pain-for-pharmacy/

# Wellstar Health System Analgesic Stewardship Policy

| Analgesic Stewardship | | | |
|---|---|---|---|
| **Procedure #** | MU-91 | **Published Date** | February 27, 2020 |
| **Category** | Standard | **Last Review/Revision** | March 2018 |
| **Sub-Category** | Medication Use | **Standards Leader** | VP Pharmacy |

**PURPOSE:** To define a process and establish a protocol that may be used by pharmacists to promote safe pain medication dosing, administration, and monitoring.

**DEFINITION(S):**

**Equianalgesic-a dose of one analgesic that is equivalent in pain-relieving effects to that of another analgesic**

**Michigan Opioid Safety Score (MOSS)-** an opioid assessment tool which stratifies the patient's potential risk for opioid induced adverse events (ADR) using a severity score of 0-4.

**Opioid**- a synthetic opium-like compound that provides analgesia by binding to one or more opioid receptors (i.e., mu, kappa, delta) in the brain

**Opioid tolerant**-patients receiving at least 60 mg oral morphine/day, 25 mcg transdermal fentanyl/hour, 30 mg oral oxycodone/day, 8 mg oral hydromorphone/day, 25 mg oxymorphone/day, or an equianalgesic of another opioid for one week or longer

**Opioid naïve**: an individual who has not been utilizing pain medications on a daily basis and who fails to meet the dosage criteria established for opioid tolerance

**Pain** –is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain is subjective. Therefore, it "is whatever the experiencing person says it is, existing whenever the experiencing person says it does."

**Pain control** – a reduction in pain to a level of comfort that is demonstrated by a decrease in the patient's verbal pain scale rating and/or an improvement in physical, cognitive, behavioral, and/or psychosocial function

**Pain management**-the provision of non-pharmacologic or pharmacologic interventions to prevent, reduce, or stop pain sensations

**Pain management clinical pharmacist**-pharmacist with didactic and experiential training in pain management

**Pasero Opioid Induced Sedation Scale (POSS)-** a serial sedation scale with tiered levels S-4 which are used to determine the patient's sedation level during opioid therapy

**Patient controlled analgesia (PCA)-** a method of pain control designed to allow the patient to administer preset doses of an analgesic, on demand.

**EXCEPTIONS:**

1. PATIENTS UNDER THE DIRECT CARE OF WELLSTAR PALLIATIVE CARE, ANESTHESIA, OR AFFILIATE PAIN MANAGEMENT PHYSICIANS GROUPS.
2. PATIENTS <18 YEARS OLD
3. VARIATIONS IN PHARMACY PRACTICE MODELS AND STAFFING LEVELS PRECLUDE EXECUTION OF ALL MONITORING ACTIVITIES DESCRIBED BELOW. MANDATORY PHARMACY MONITORING AND/OR ANALGESIC INTERVENTIONS ARE DESIGNATED AS SUCH BY USE OF THE TERMS "WILL" . OTHERWISE, THE ACTIVITY IS DEEMED ELECTIVE.
4. WELLSTAR HEALTH SYSTEM FACILITIES THAT HAVE A PAIN MANAGEMENT CLINICAL PHARMACIST MAY PROVIDE PHARMACY MANAGED CONSULTATIVE PAIN SERVICES

The Analgesic Stewardship Policy has 5 distinct practice management categories

1. Pain Assessment
2. Pain Medication Reconciliation and Profile Review
3. Analgesic Stewardship Activities and Pain Management Consultations
4. Monitoring
   - PCA orders
   - Methadone
5. Documentation

# Surveillance and Pain Assessments

Wellstar HEALTH SYSTEM

**PROCEDURE:**

| | Required Action Steps | Performed By | Supplemental Guidance |
|---|---|---|---|
| **Pain Assessment** | | | |
| STEP ONE | CAUTION: Pain assessments conducted by pharmacists are available as time permits and/or upon request. Pain assessments conducted by pharmacists will not substitute nor replace the routine pain assessments to be conducted by nursing and physician staff established by other WellStar Health System (WHS) Policies and Procedures. | | |
| | NOTE: Patient interviews and pain assessments conducted by pharmacy staff are only available at WellStar Health System Hospitals that utilize a Unit Based Staff Pharmacist Practice Model or have clinical pharmacy pain management specialists. | | |
| | 1.1 Review the electronic medical record (EMR) for information regarding pain etiology | Pharmacist | • Review admission history and physical, progress notes, and nursing documentation for pain source, type, (pain history, if chronic), etc., |
| | 1.2 Conduct a pain assessment interview with patient to determine the location, quality, severity, timing, palliating and exacerbating factors of the patient's pain complaint | Pharmacist | • The PQRSTU mnemonic may be used to conduct a thorough pain assessment<br>• P: Pain type. Palliating Factors. Exacerbating Factors<br>• Q: Quality of Pain (How does it feel? Describe the pain.)<br>• R: Region and Radiation of pain (Where does the pain occur? Does the pain Radiate)?<br>• S: Severity of Pain (What is the patient's pain score?) *[See Job Aid 1 for various pain rating scales].*<br>• T: Timing. (How long has the pain been present? How long does the pain last?)<br>• U: How does the pain affect you (i.e., the patient)? Does the pain affect the patient's ability to work, sleep, ambulate, etc. |
| | 1.3 Conduct pain re-assessment after any pharmacy initiated pain medication intervention | Pharmacist | • The pharmacist may inquire about the efficacy of analgesia, pain severity, the patient's satisfaction with pain control or the presence of adverse drug effects, after implementing interventions |

**hospital pain scale 24 hours [35904583] as of Thu 1/26/2023 3:16 PM**

Hospital Chart | Add to List | Tx Team | Patient List Membership

Detail List | Explore

Filter

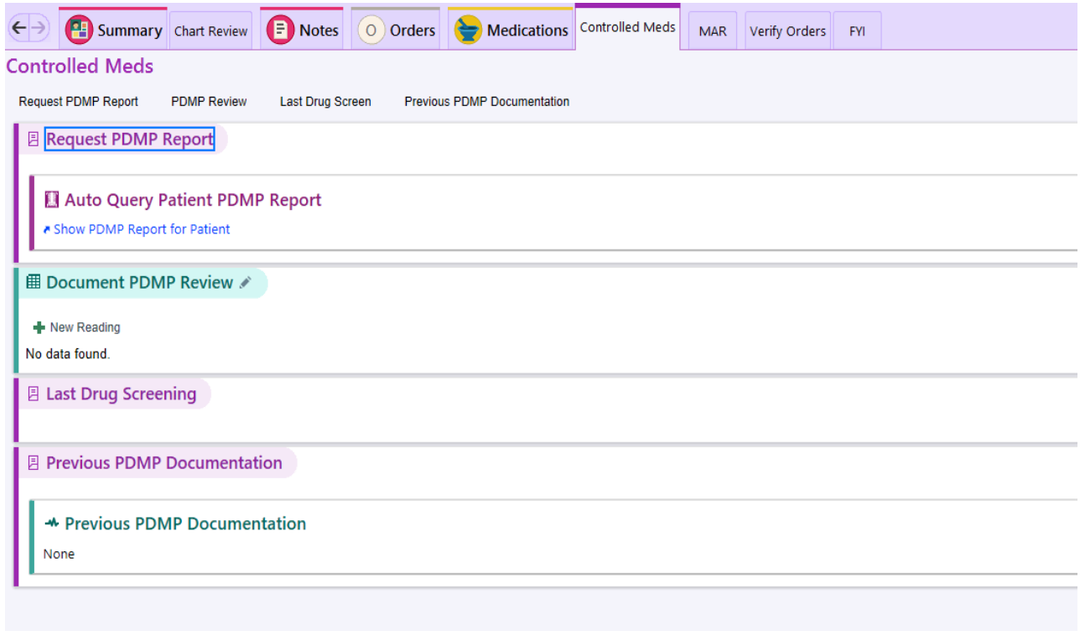
| Department | Patient Name/Age/Gender | Bed | MRN |
|---|---|---|---|
| CH 2N TELE (CARD) | | 255-01 | |
| CH 2S TELE (NEURO) | | 285-02 | |
| CH 2S TELE (NEURO) | | 271-01 | |
| CH 2S TELE (NEURO) | | 288-01 | |
| CH 3N TELE (MED) | | 305-01 | |
| CH 3N TELE (MED) | | 348-01 | |
| CH 3N TELE (MED) | | 353-01 | |
| CH 3N TELE (MED) | | 301-01 | |
| CH 3N TELE (MED) | | 306-01 | |
| CH 3N TELE (MED) | | 307-01 | |
| CH 3N TELE (MED) | | 312-01 | |
| CH 3N TELE (MED) | | 304-01 | |
| CH 3S TELE (RENAL) | | 381-02 | |
| CH 3S TELE (RENAL) | | 391-01 | |
| CH 3S TELE (RENAL) | | 374-01 | |
| CH 3S TELE (RENAL) | | 394-01 | |
| CH 3S TELE (RENAL) | | 392-01 | |
| CH 3S TELE (RENAL) | | 382-02 | |
| CH 4N BURN MED SURG | | 446-01 | |
| CH 4N BURN MED SURG | | 443-01 | |
| CH 4N BURN MED SURG | | 440-01 | |
| CH 4N BURN MED SURG | | 436-01 | |
| CH 4N SURG | | 434-01 | |
| CH 4N SURG | | 406-01 | |
| CH 4N SURG | | 450-01 | |

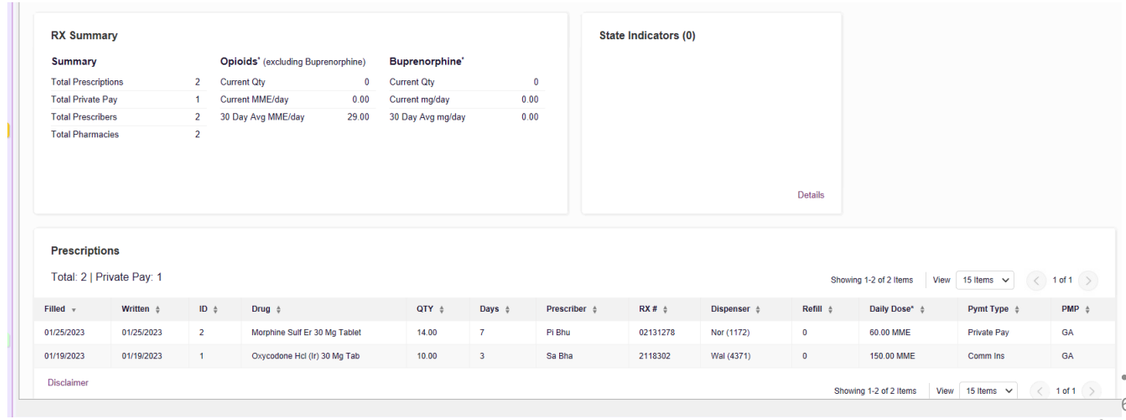
# PDMP Access-Analgesic Medication Reconciliation

1-click access available to all physicians and pharmacists

Wellstar HEALTH SYSTEM

| | | | |
|---|---|---|---|
| | appropriate | | |
| **Pain Medication Reconciliation and Profile Review** | | | |
| STEP TWO | CAUTION: Pharmacist-driven Georgia Prescription Drug Monitor Program (PDMP) reviews or other outpatient opioid prescription verification methods are available as time permits and/or upon request. Pharmacist-driven Georgia PDMP reviews will not substitute nor replace mandatory physician driven database reviews described in Georgia State Law or WellStar Health System (WHS) Policies and Procedures.<br>NOTE: Pharmacists are strongly encouraged to obtain a provider login and password for the Georgia PDMP to accurately reconcile pain medications. | | |
| | 2.1 Reconcile pain medications | Pharmacist | • Ensure pain medications are properly reconciled (See WellStar Health System Medication Reconciliation policy MU-04-01)<br>• Pharmacists may verify the outpatient pain regimen by reviewing Georgia PDMP reports, contacting the patient's outpatient pharmacy, or examining the patient's prescription bottles<br>• Compare the current pain medication list to the outpatient pain medication list<br>• The pharmacist will not recommend to resume any pain medications that are unreconciled due to worsening illness, relative or absolute contraindications to therapy, opioid withdrawal or overdose, new or developing adverse drug events, change in mental status, change in pain severity, etc.<br>• Contact provider prior to discontinuing or resuming any unreconciled pain medication(s) |



# Surveillance of Patients at High-Risk for Opioid ADR

Wellstar HEALTH SYSTEM

| | | | |
|---|---|---|---|
| | 2.2 Assess risk for adverse drug events related to pain medication order | Pharmacist | • Review active medication profile for concomitant medications that may potentiate the risk for adverse drug events<br>• Review labs, patient demographics (height, weight, CrCl), and past medical history to identify risk for adverse drug events<br>• The Pharmacist may determine the patient's risk for opioid induced respiratory distress or apnea by reviewing the MOSS or POSS scores located in the electronic medical record. (Job Aid 2) |

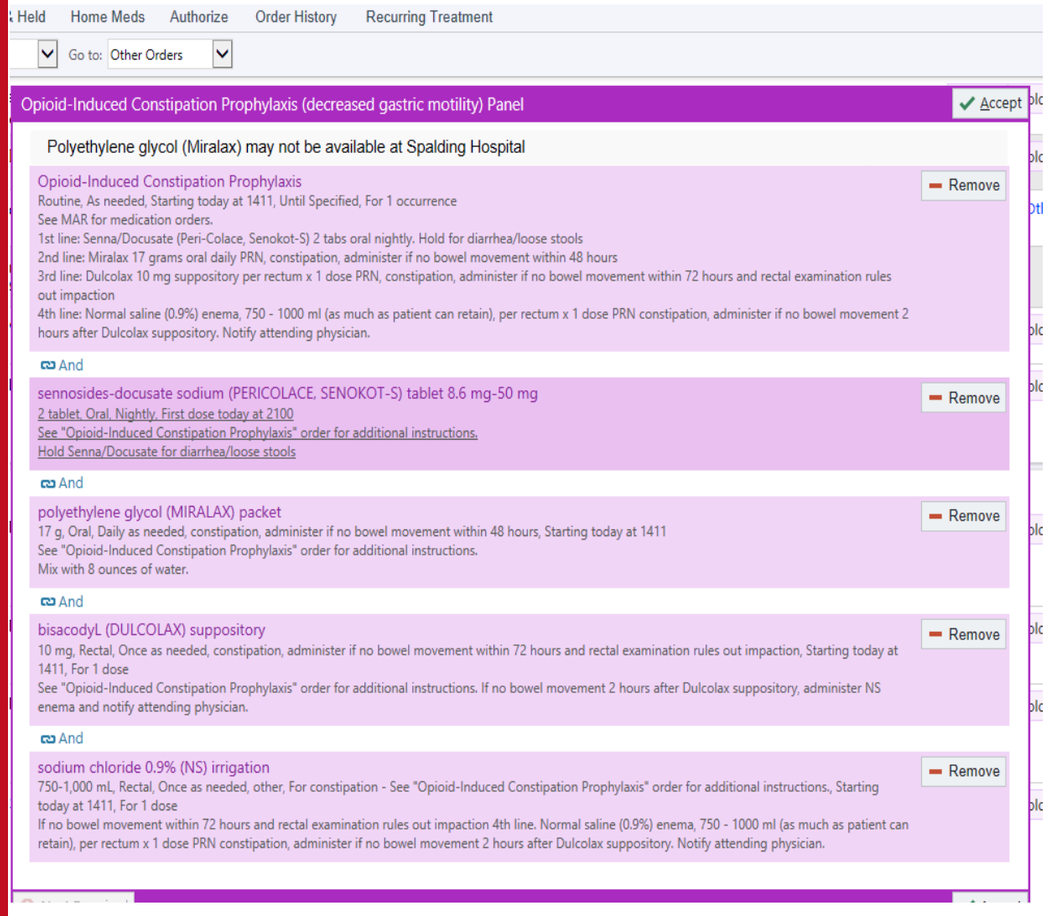
Patients

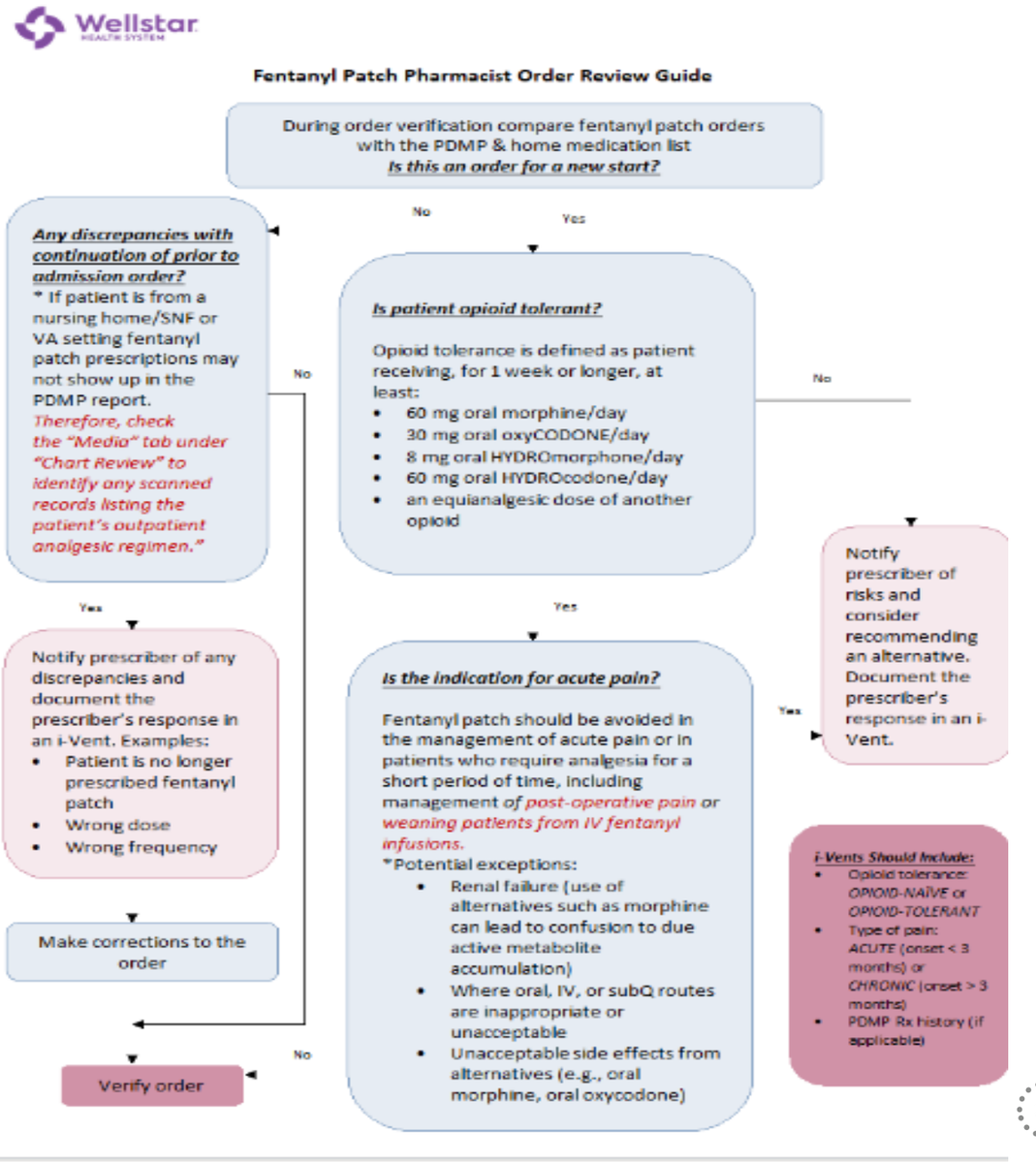
| MOSS/POSS | Chief Complaint | CrCl | Pharmacy Consults |
|---|---|---|---|
| MOSS: 1<br>POSS: 0 | Chest Pain | 51.2 mL/min (A) | Pharmacy to dose IV vancomycin<br>Pharmacy to dose antibiotics... |
| MOSS: 1<br>POSS: 0 | Cellulitis; Pt sent over from Villa... | 134 mL/min | Cobb Pharmacy to Dose Basal Bolus Insulin |
| MOSS: 0<br>POSS: 0 | Burn | 177.8 mL/min (A) | Cobb Pharmacy to Dose Basal Bolus Insulin<br>Pharmacy to dose IV vancomycin... |
| MOSS: 2<br>POSS: 0 | Drainage from belly button,... | 68.1 mL/min | Pharmacy to dose IV vancomycin |
| MOSS: 2<br>POSS: 0 | — | 133.9 mL/min | Pharmacy to dose medication |
| MOSS: 0<br>POSS: 0 | — | 214.6 mL/min (A) | Pharmacy to dose IV vancomycin |
| MOSS: 0<br>POSS: 0 | Dehydration | 311.3 mL/min (A) | Pharmacy to dose TPN |
| MOSS: 4<br>POSS: 0 | — | 115.3 mL/min | Pharmacy to dose medication |
| MOSS: 0<br>POSS: 0 | Burn | 128.8 mL/min | Pharmacy to dose IV vancomycin |
| MOSS: 5<br>POSS: 4 | Facial Droop | 84.8 mL/min | Pharmacy to dose medication |
| MOSS: 2<br>POSS: 0 | Fatigue; Abdominal Pain;... | 123.5 mL/min | Pharmacy to dose TPN<br>Consult Pharmacy for Pain Management |
| MOSS: 2<br>POSS: 0 | — | 152.3 mL/min (A) | Consult Pharmacy for Pain Management |
| MOSS: 1<br>POSS: 0 | Frost Bite | 116.3 mL/min | Consult Pharmacy for Pain Management |
| MOSS: 1<br>POSS: 0 | Burn | 48.8 mL/min (A) | Consult Pharmacy for Pain Management |
| MOSS: 0 | Frostbite | 119.9 | Pharmacy to dose IV vancomycin |

Soto R, et al. The Michigan Opioid Safety Score (MOSS): A Patient Safety and Nurse Empowerment Tool. *J Perianesth Nurs.* 2015 Jun;30(3):196-200.
Pasero C. Assessment of sedation during opioid administration for pain management. *J Perianesth Nurs.* 2009 Jun;24(3):186-90.

# Analgesic Stewardship Activities-All Pharmacists

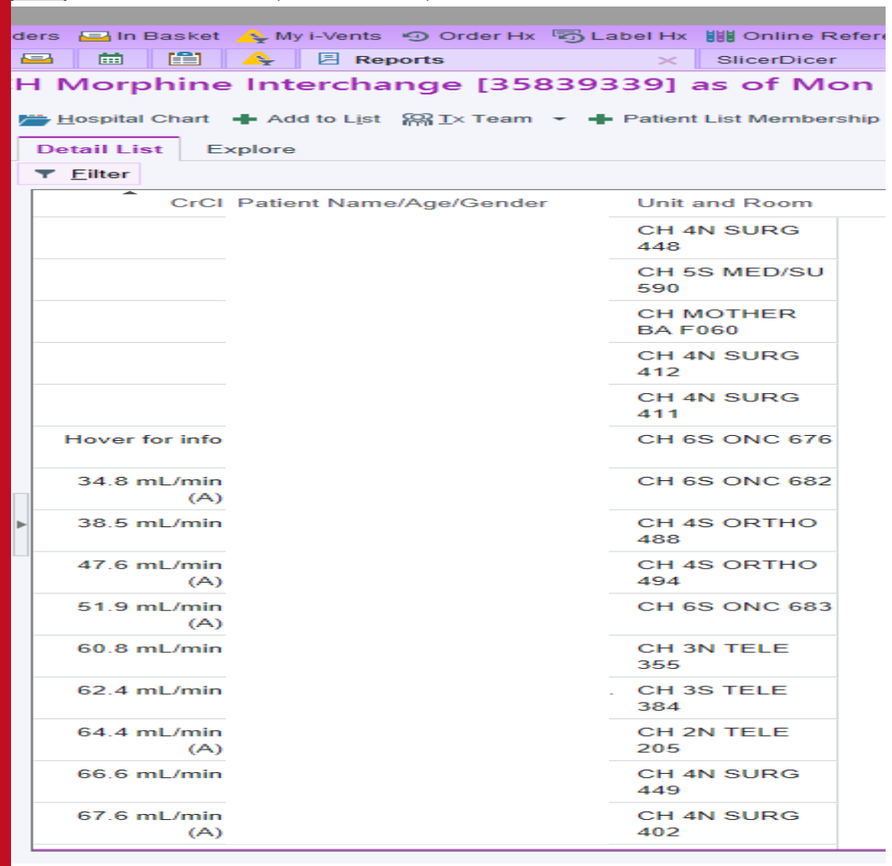
| | | |
|---|---|---|
| 3.2 Modify the patient's laxative regimen as necessary, to prevent/manage opioid-induced constipation | Pharmacist | • The pharmacist may order an adjustment to a patient's laxative regimen based on an evaluation of the patient's opioid regimen, opioid administration frequency and elimination pattern (See Job Aid 4)<br>• Orders will be signed "Per Protocol No Cosign Required" |
| 3.3 Determine the appropriateness of fentanyl patch orders | Prescriber Pharmacist | • The pharmacist will review all fentanyl patch orders to determine indication and appropriateness.<br>• The pharmacist will contact the provider for all fentanyl patch orders used to manage acute pain or fentanyl patch orders received for opioid naïve patients (Job Aid 5) |

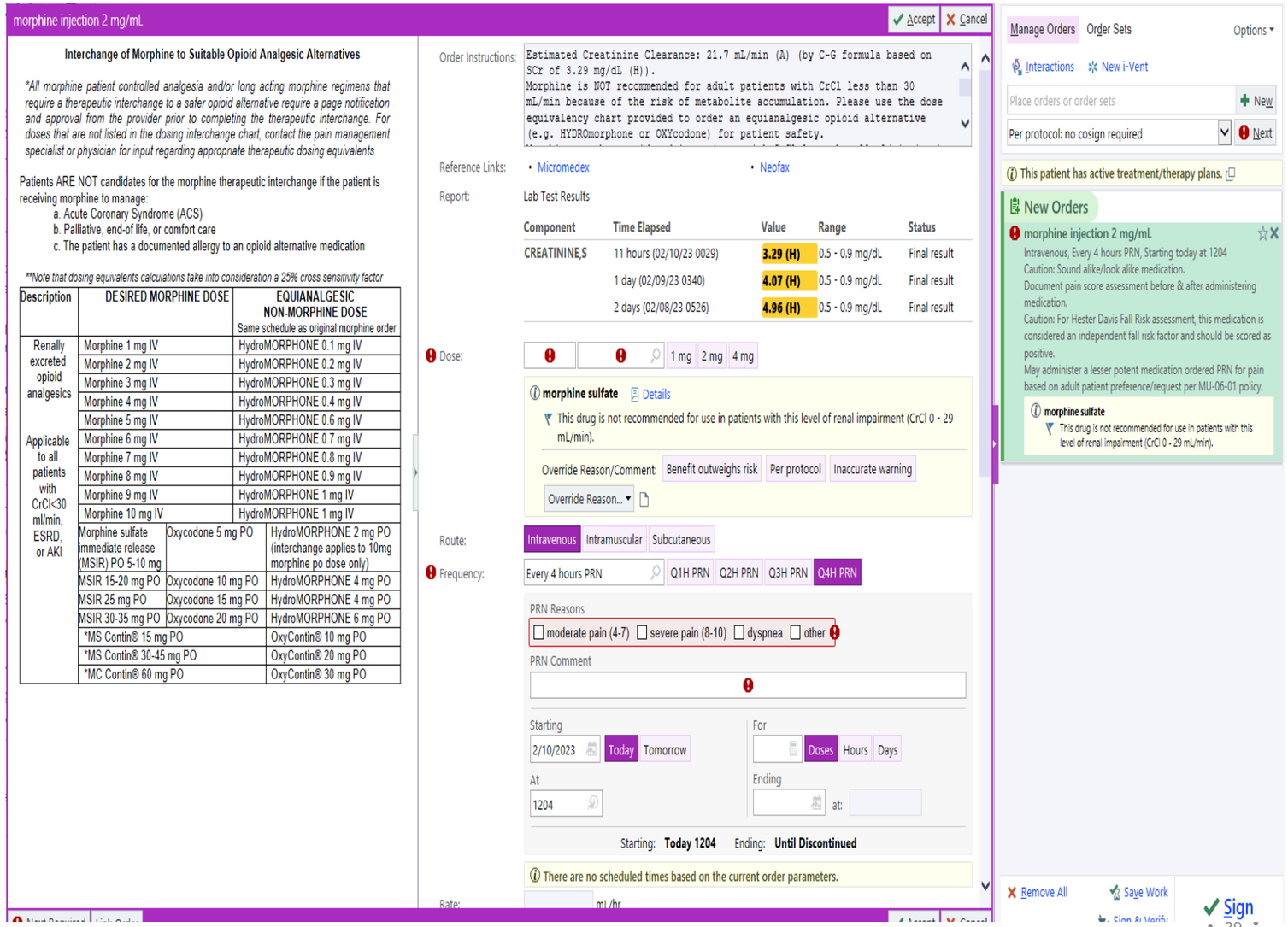


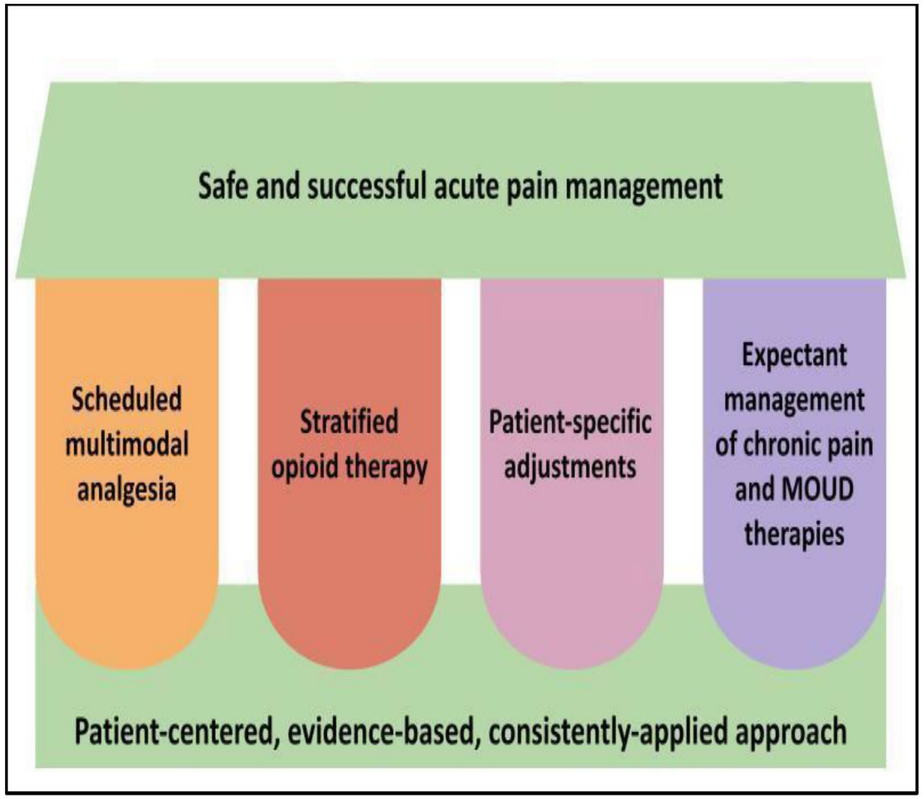
# Analgesic Stewardship Activities-All Pharmacists

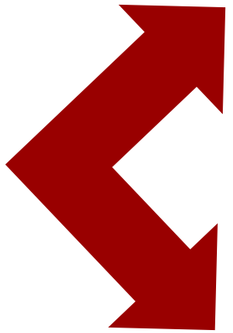
| | | | |
|---|---|---|---|
| | 3.1 Interchange pain medications based upon the patient's renal function | Pharmacist | • The pharmacist may collaborate with the patient, nurse, physician assistant, and/or physician as needed to determine whether medication changes are appropriate<br>• Medications approved for automatic renal dosage adjustment are listed on the WellStar Pharmacy Department's website (Job Aid 3 and 3A-2019 update)<br>• Orders will be signed "Per Protocol No Cosign Required"<br>• All morphine patient controlled analgesia regimens or long acting morphine regimens that require a therapeutic interchange to a safer opioid alternative require a page notification and approval from the provider prior to completing the therapeutic interchange<br>• Orders for long acting morphine or patient controlled analgesia interchanges will be signed "Telephone Order" or "Verbal Order," as appropriate |

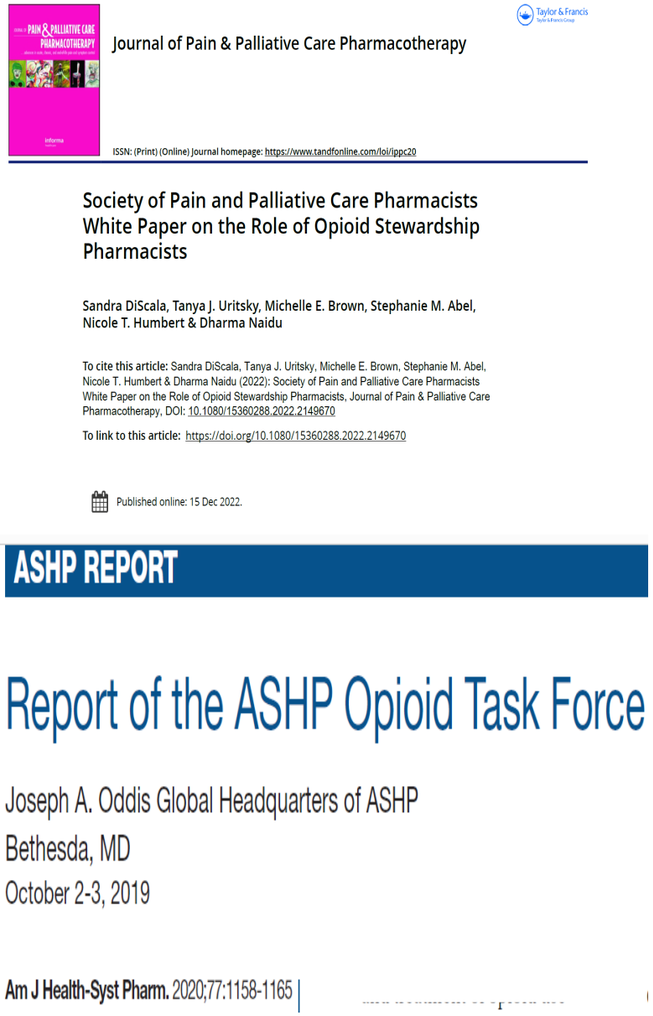


# Benefits of Incorporating a Pain Management Pharmacist into the Inpatient Care Model





Journal of Pain & Palliative Care Pharmacotherapy

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ippc20

Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists

Sandra DiScala, Tanya J. Uritsky, Michelle E. Brown, Stephanie M. Abel, Nicole T. Humbert & Dharma Naidu

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ASHP REPORT

Report of the ASHP Opioid Task Force

Joseph A. Oddis Global Headquarters of ASHP
Bethesda, MD
October 2-3, 2019

Am J Health-Syst Pharm. 2020;77:1158-1165

Hyland SJ, et al. Acute Pain Management Pearls: A Focused Review for the Hospital Clinician. *Healthcare* (Basel). 2022 Dec 22;11(1):34.
Report of the ASHP Opioid Task Force, *American Journal of Health-System Pharmacy*, Volume 77, Issue 14, 15 July 2020, Pages 1158–1165, https://doi.org/10.1093/ajhp/zxaa117
DiScala et al, Society of Pain and Palliative Care Pharmacists White Paper on the Role of Opioid Stewardship Pharmacists, *Journal of Pain & Palliative Care Pharmacotherapy*, DOI: 10.1080/15360288.2022.2149670

# Benefits of an Inpatient Pain Management Pharmacist

## "Evaluating Outcomes of a Pharmacist-Driven Pain Management Consult Service."

- Study setting:  Two community hospitals within the same health system
  - 433 beds and 217 beds, respectively
- Study Design:  retrospective analysis of outcomes recorded at baseline, 48 hours after pharmacy consultation, and at discharge
- Number of Patients evaluated: N=80
- Outcomes reported:
  - A statistically significant reduction in average pain scores 48 hours after consult (-19.1%) and at discharge (-26.9%) $p<0.001$
  - A statistically significant reduction in average MME 48 hours after consult (-10.4%) and at discharge (-26.3%) $p<0.001$
    - IV and oral opioids
  - A statistically significant reduction in benzodiazepine co-prescribing (-11.1%)

Janbakhsh, M et al, "Evaluating Outcomes of a Pharmacist-Driven Pain Management Consult Service." *J Pain Palliat Care Pharmacother.* 2022 Sep;36(3):145-151

# Benefits of an Inpatient Pain Management Pharmacist

"Impact of a pharmacist-directed pain management service on inpatient opioid use, pain control, and patient safety"

- Study setting: Kaweah Delta Healthcare, Visalia California
  - 581-bed rural community-based hospital
- Study Design: Pre and post pharmacy consultative and opioid stewardship program implementation
  - 3-year period before (2011-2013) and after (2014-2016) implementation of pharmacy consult service
- Outcomes reported:
  - A statistically significant reduction in total opioid use (-44.5%) p<0.0001

    A statistically significant reduction in IV opioid utilization

    A statistically significant reduction extended-release morphine and oxycodone orders

    A statistically significant reduction in fentanyl patch use
  - A statistically significant increase in non-opioid/adjunctive analgesics p<0.0001
    - Acetaminophen, ketorolac, naproxen, gabapentin, and pregabalin

Poirier RH, et al.. *Am J Health Syst Pharm*. 2019 Jan 1;76(1):17-25.

# Benefits of an Inpatient Pain Management Pharmacist

"Impact of a pharmacist-directed pain management service on inpatient opioid use, pain control, and patient safety."

- Increased  patient satisfaction per the HCAHPS pain management domain
  - There was no detected decreases in patient satisfaction despite reductions in opioid utilization
- A 75% reduction in rapid response and code blue events
- A projected cost avoidance of ~$1.5-1.8 million

Poirier RH, et al.. *Am J Health Syst Pharm.* 2019 Jan 1;76(1):17-25

# Benefits of an Inpatient Pain Management Pharmacist

## "Impact of a Pharmacy-Led Pain Management Team on Adults in an Academic Medical Center."

- Study Setting: Parkland Hospital-Dallas, Texas
- Study Design: retrospective analysis of patients seen by the pharmacy consult service for 2019-2011
- Number of patients evaluated: N=100
- Outcomes reported:
  - A statistically significant ~3 point reduction in pain score at baseline vs after pharmacist intervention ($p<0.001$)
  - A statistically significant ~3 point reduction in pain maintained until discharge ($p<0.001$)
  - Overall functional improvement
    - 86.6 % of patients reported improvements in sleep, mobility, or appetite
  - Perceived reduction in patient readmissions*
    - 8 out of 100 patients (8%) had a 14-day readmission due to pain
    - 14 out of 100 patients (14%) had 30-day readmission due to pain

*no comparator group

Mathew S, et al. Impact of a Pharmacy-Led Pain Management Team on Adults in an Academic Medical Center. *Hosp Pharm*. 2016 Sep;51(8):639-645.

# Wellstar Health System Experience

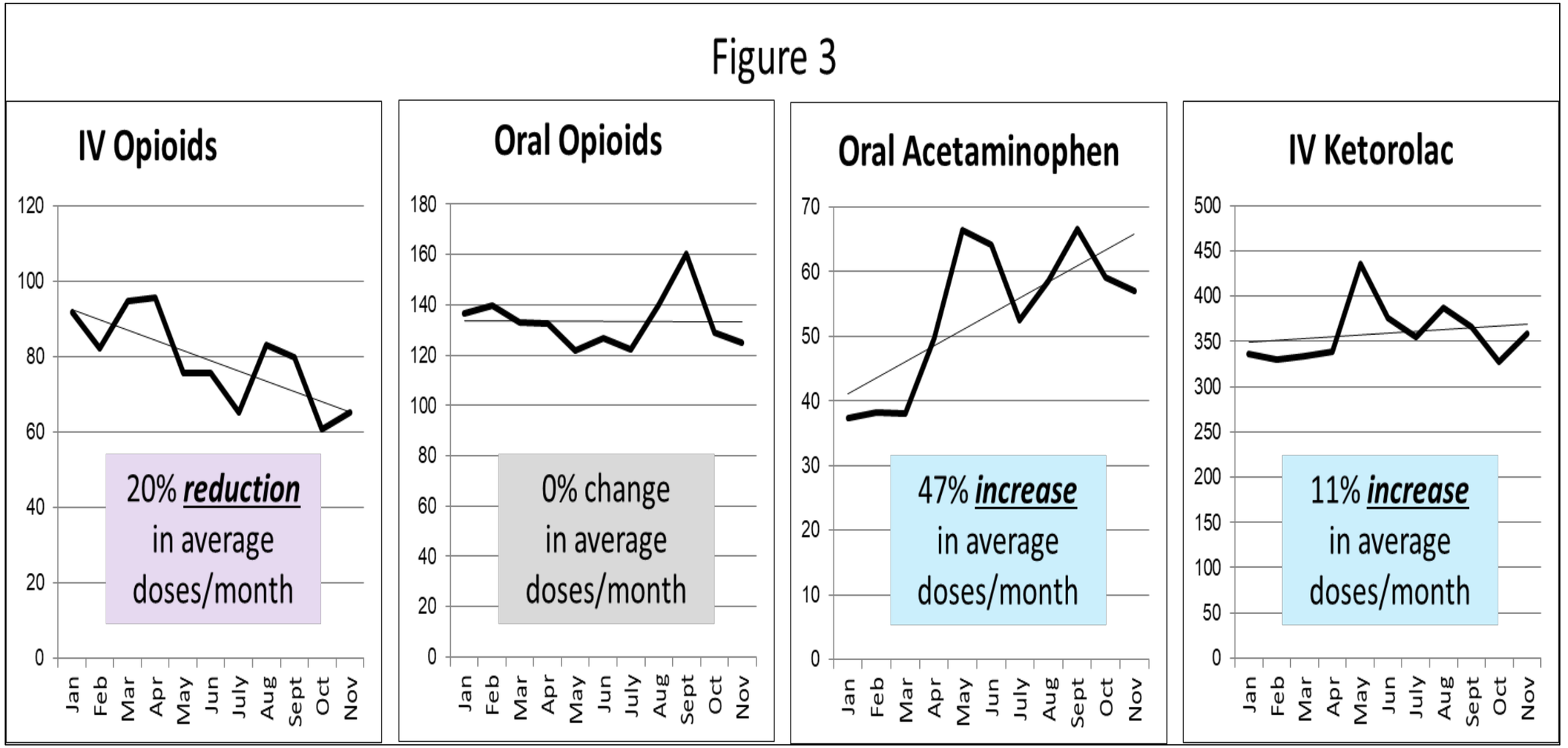
System-wide stewardship initiatives achieved via a “train the trainer model”

- Boot camp style program
  - 1 staff pharmacist from hospitals without a credentialled pain management pharmacists were trained
  - Didactic format with pre and post assessment competencies
  - 5 major stewardship activities from the analgesic stewardship policy were taught

Utilized the health-system’s Opioid Stewardship Clinical Initiatives Work and Pharmacy Led Opioid Stewardship Committee to design and implement system wide analgesic stewardship performance improvement projects

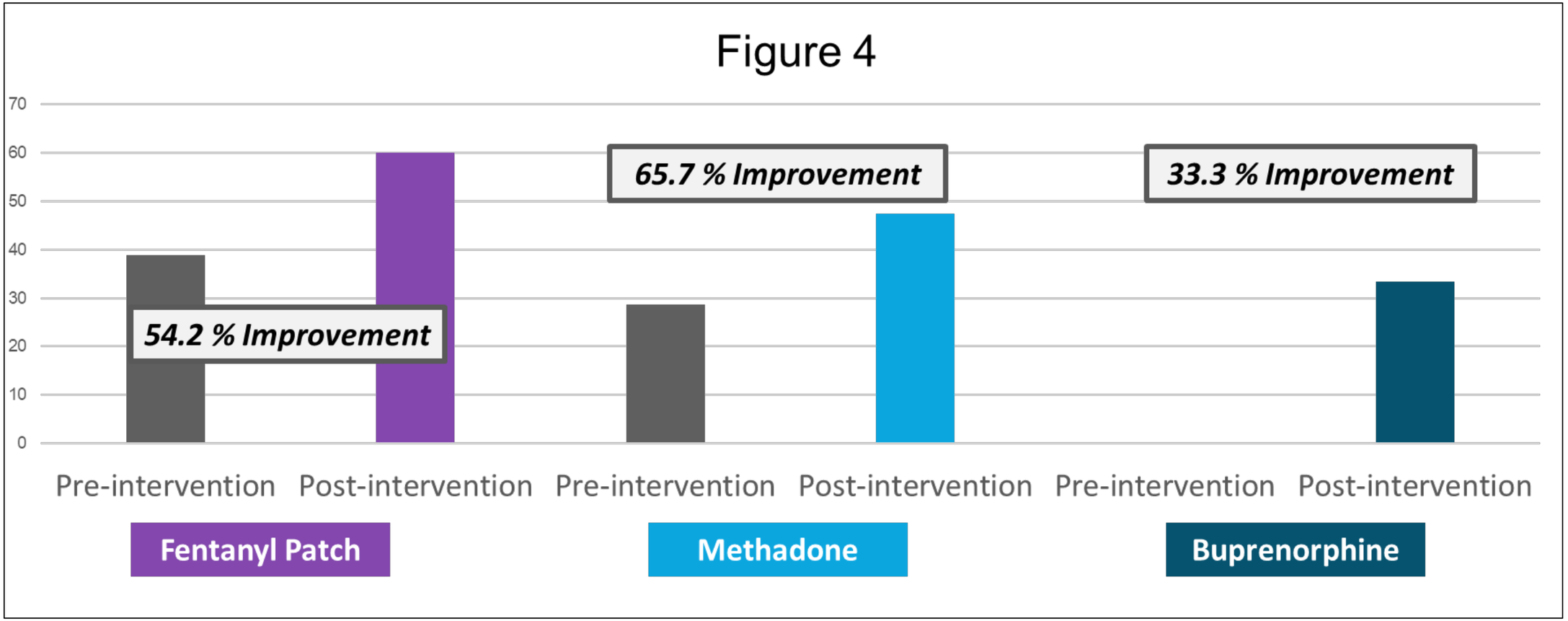
- Decrease IV opioid utilization
  - 3-day automatic stop date added to iv opioids in the admissions order set
  - Increase multi-modal non-opioid utilization via a hyperlink incorporated into all established order sets
  - Decrease naloxone administrations
  - Increase staff pharmacists’ interventions system wide

# Wellstar Health System Experience



# Wellstar Health System Experience

## Medication Errors Identified



# Wellstar Health System Experience

Figure 6

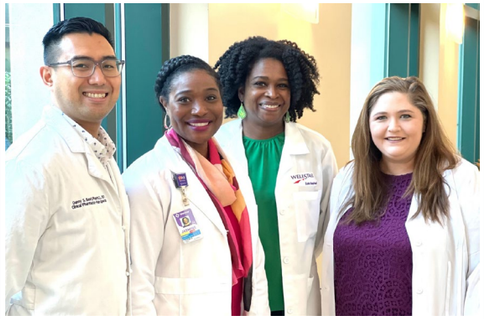
| | Pre-Intervention (June 2018-December 2019) | Post-Intervention (January 2020-December 2021) |
|---|---|---|
| **Number of patients requiring naloxone per 1000 opioid administrations** | 4.46 | 2.88 |
| | **35.5 % reduction in patient events** | |

# ASHP Best Practices Award

# THE DEVELOPMENT AND IMPLEMENTATION OF A SYSTEM-WIDE OPIOID STEWARDSHIP PROGRAM

Elizabeth Pennington, B.S., Pharm.D.
Kimm Freeman, Pharm.D., BCPS, CPE
Jasmine Jones, Pharm.D., BCGP
Danny Basri, Pharm.D., BCPS

Wellstar Health System
Marietta, Georgia



Authors of this presentation disclose the following relationships with commercial interests related to the subject of this poster:

Authors have nothing to disclose

Wellstar HEALTH SYSTEM

Follow us on @rxresidency

## Introduction

**Healthcare System**
- Non-profit, located in Metro Atlanta
- One of the largest health systems in Georgia
- 11 hospitals, 10 Emergency departments (ED)
  - Average of 123,000 patients admitted per year
  - Average of 604,000 ED encounters per year

**Advanced Pharmacy Practice**
- Pharmacy based inpatient pain management consult services available
- **Cobb Hospital:** since 2013
- **Kennestone Hospital:** since 2014
  - PGY2 Pain Management and Palliative Care Residency initiated 2022
- **Paulding Hospital:** since 2018

**Background**
- In 2017, the U.S. Department of Health and Human Services declared a public health emergency centered around the abuse and overdose of opioids
  - The Joint Commission (TJC) issued supporting standards for the assessment and management of pain within the hospital setting.
- STOP-Bang does not consider many of the important risk factors for opioid-induced respiratory depression (OIRD) discussed by TJC.
  - **Michigan Opioid Safety Score (MOSS)** utilizes reduced respiratory rate, increased sedation using **Pasero Opioid-Induced Sedation Scale (POSS)**, and other risk factors (perioperative surgical factors, recent concomitant sedation, smoking history).
- The **PRODIGY study** evaluated patients with and without one or more episodes of OIRD that received parenteral opioids and monitoring (continuous capnography, pulse oximetry) and found an association with higher cost and longer length of stay (LOS).
- Opioid-induced constipation (OIC) has an overall estimated prevalence of 40-80% and has been associated with longer LOS, higher hospital costs, risk of intensive care unit admission, and increased likelihood of 30-day readmission or ED visit.

## Description of the Program

**Opioid Stewardship Goals and Framework**

**Increase Interprofessional Collaboration**
- *See Figure 1*

**Safer Prescribing Practices**
- *See Figure 2*

**Safer Pharmacist Verification Skills**
- Systemwide Education
- Morphine Interchange for Renal Dysfunction
- PDMP access and monitoring
- Methadone Verification, EKG and Drug Interaction Monitoring
- Review Orders for Appropriateness:
  Fentanyl Patch
  Hydromorphone Dosing > 1.5 mg
  Continuous Rate PCA
  Long-Acting/Extended Release or Scheduled Opioids
- Per Protocol Adjustment of Laxative Regimen for OIC
- Per Protocol Ordering of Pulse Oximetry Monitoring on High-Risk Patients

**Improve Safety Directly at Bedside**
- Increase availability of Continuous Pulse Oxygen Monitoring
- Risk Assessment and Sedation Monitoring with MOSS/POSS
- Comfort Cart and Comfort Menu

**Figure 1: Interprofessional Committee Framework**

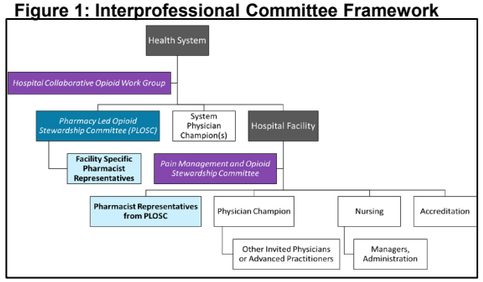



**Figure 2: Safer Prescribing Practices**

*PDMP One-Click Access*

*Addition of Synthetic Agents to Urine Toxicology Screening*
- Methadone, Fentanyl, Oxycodone

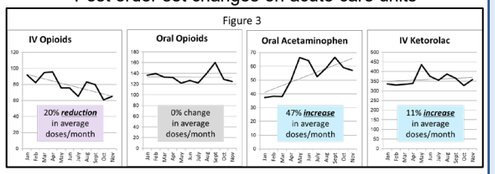
*Order Panel Adjustments with Best Practices*
- Default Orders to Lowest Dosing and Frequency
- Include oral route of administration, unless strict NPO
- Scheduled non-opioid analgesics
- Caution statements for patients with elevated risk factors
  - Elderly, Elevated BMI, Organ Dysfunction
    - Renal, Liver, Pulmonary (COPD, Sleep Apnea, Pneumonia), Cardiac (Heart Failure, Coronary Artery Disease, Dysrhythmia)
- Multimodal Order Set *(Neuropathic, Musculoskeletal, Headache/Migraine, Bone, Stretching/Capsule Visceral, Abdominal)*

*Prescriptions at Discharge*
- Opioid Risk Predictive Model Integration for Naloxone Co-Prescribing in High-Risk Patients
- Monitoring Quantity of Oral Morphine Milliequivalents (MME) *(< 50, 50-90, > 90)*
- Post-Surgical Opioid Prescribing (**SOAR/SOLVE study**)
  - Multi-modal Analgesics + Constipation Prophylaxis
  - Tapered Opioid Regimen With Reduced Quantities

## Experience with the Program

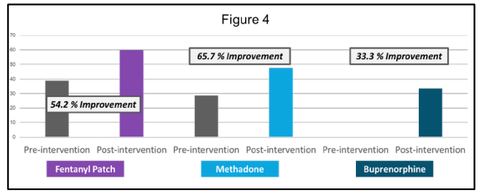
**Medication Utilization Findings**
- IV hydromorphone ≥ 1.5 mg (*facility*): Doses utilized reduced from 12% to 6%
  - Cost savings of > $10,000/month
- IV and PO utilization changes (*facility*): Number of doses administered per 100 patient day– see Figure 3
  - Post order set changes on acute care units

Figure 3



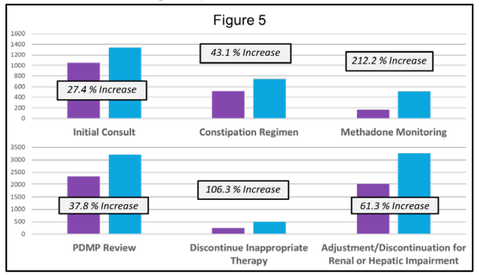

**Medication Safety Findings**
- Average percentage of medication errors caught to those reported per year (*system*): see Figure 4

Figure 4




- Documented Analgesic Stewardship Pharmacy Interventions (*system*): see Figure 5
  - Cost savings expected, but not known for OIC

Figure 5




- Potential impact for incorporation of opioid predictive risk model to increase naloxone co-prescribing in ED (*facility*): using high risk threshold for CIP-RIOSORD
  - Found an opportunity to reduce harm for nearly 2,500 patients per year in the largest ED
  - Implemented across the system early 2022

## Experience with the Program (continued)

**Naloxone events related to OIRD–** see Figure 6
- Based on the PRODIGY return on investment calculator from Medtronic, estimate cost savings for Med Surg patients on opioid analgesics during post intervention period across the system of about $20,899,340 per year

Figure 6

| | Pre-Intervention (June 2018-December 2019) | Post-Intervention (January 2020-December 2021) |
|---|---|---|
| Number of patients requiring naloxone per 1000 opioid administrations | 4.46 | 2.88 |
| | 35.5 % reduction in patient events | |

## Discussion / Conclusion

**Pharmacy Practice Impact**
- Increased opportunities for professional development, new job positions, increased job satisfaction
- Establishment of the first PGY2 Pain Management and Palliative Care residency in Georgia

**System Program Impact**
- Reduction in rate of OIRD events since implementation, future opportunities found to prevent OIRD events with discharge, and cost reduction associated with prevention of opioid related events

## Acknowledgements

**Wellstar Health System groups that supported the goals and initiatives for Opioid Stewardship**
- Pharmacy Led Opioid Stewardship Committee
- Clinical Initiatives Workgroup
- Medication Safety Team
- Information Technology, EPIC Team

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# Conclusions

- Analgesic stewardship is a comprehensive approach to pain management. It encompasses all aspects of pain management including opioid therapy management.

- Opioid stewardship focuses on opioid risk mitigation, judicious opioid use, patient monitoring, and reassessment, dose tapering  and discontinuation when applicable.

- Pharmacists may engage in *numerous* analgesic stewardship roles.
  - Optimize patient care, ensure patient safety, improve patient satisfaction, support the institution with regulatory compliance and provision of leadership on hospital committees, assesses quality metrics, creates performance improvement projects, and/or educates patients and providers.

- Pain management pharmacists positively impact the patient and/or institution by reducing pain severity, reducing opioid consumption, increasing non-opioid utilization, decreasing opioid ADR and naloxone administrations, improving functionality, increasing patient satisfaction, and providing cost avoidance/savings