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

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Wellstar Health System, Marietta, GA
Disclaimer

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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
• 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

Hospital Opioid Utilization


"Free Access" Journal. Figure downloads to PowerPoint permitted via hyperlink provided 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)
## Table 2. Association Between Inpatient Opioid Use and Subsequent Outpatient Opioid Use, Death, and Readmission at 90 and 365 Days After Discharge*

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

*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 care), length of stay, hospital fixed effects, HCUP CCS comorbidity 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.
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.

“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)


Pain Management: Goals of Care

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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


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/
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

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


To link to this article: https://doi.org/10.1080/15360288.2022.2149670

Published online: 15 Dec 2022.


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
### SPPCP White Paper Recommendations

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

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

MOUD = medications for opioid use disorder; PRN = pro re nata.
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
Potential Pain Pharmacist Roles

**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

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## MORE Tool Part I

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

### Review Opioid Orders

<table>
<thead>
<tr>
<th>Suboptimal Dose, Route &amp; Frequency</th>
<th>Suboptimal Drug Combinations</th>
<th>Assess for Increased Risk of ADR &amp; Overdose</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV or SC route ordered when PO route is viable</td>
<td>Combinations of different opioids for acute pain are ordered*</td>
<td>Opioid naive</td>
</tr>
<tr>
<td>Excessively frequent regular dosing (&lt; Q4H)</td>
<td>Benzodiazepines &amp; opioids ordered together</td>
<td>Advanced age (&gt;75 years old)</td>
</tr>
<tr>
<td>Multiple PRN opioid orders</td>
<td>No adjunctive acetaminophen or NSAID ordered</td>
<td>Low BMI</td>
</tr>
<tr>
<td>PRN opioid order being used regularly</td>
<td>No other adjunctive pain medications ordered (i.e. for neuropathic pain)</td>
<td>Kidney or liver impairment</td>
</tr>
<tr>
<td>Long acting opioids started for acute pain within first 5 days of hospital stay</td>
<td>*except methadone or fentanyl</td>
<td>Dose of opioid rapidly increased in recent days/weeks</td>
</tr>
</tbody>
</table>

### Optimize Opioid Regimen

<table>
<thead>
<tr>
<th>Use Adjunctive Rx</th>
<th>Avoid Benzodiazepines</th>
<th>Monitor and Treat Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen 650-975 mg po qid</td>
<td>Use non-benzodiazepine medications for HS sedation (consider trazodone, TCA, etc.)</td>
<td>Sedation:</td>
</tr>
<tr>
<td>NSAID (e.g. naproxen 500 mg PO BID)</td>
<td>Use alternatives for other indications if appropriate</td>
<td>- Reassess opioid regimen and lower dose</td>
</tr>
<tr>
<td>Other agents depending on etiology of pain (e.g. TCA or gabapentin for neuropathic pain)</td>
<td>Switch or stop short-term use BDZ (&lt; 7 days)</td>
<td>Constipation:</td>
</tr>
<tr>
<td></td>
<td>If appropriate taper off benzodiazepine if patient has been on long term</td>
<td>Senna 17.2 mg po hs regular</td>
</tr>
</tbody>
</table>

### Optimize and Refer for Risk

<table>
<thead>
<tr>
<th>Reassess Pain Management</th>
<th>Refer to Specialty Pain or Addiction Service*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reassess pain management within 24 hours after regimen change</td>
<td>If patient has &gt;3 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)</td>
</tr>
<tr>
<td>Monitor for side effects (sedation, dizziness, nausea, vomiting, constipation, respiratory depression)</td>
<td>If patient has ongoing pain &gt;8/10 despite Rx and/or ongoing need for opioid after 5–7 days of Rx</td>
</tr>
<tr>
<td>Adjust dose or switch to another opioid if necessary (due to side effects)</td>
<td>If patient has ongoing pain AND risk factors for SUD (see back page for risk factor checklist)</td>
</tr>
</tbody>
</table>

### Educate, Plan & Communicate

<table>
<thead>
<tr>
<th>Plan</th>
<th>Educate, Communicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set target stop date for opioid with plan to reassess pain &amp; provide alternative non-opioid options as needed</td>
<td>Document plan and counseling in health care record</td>
</tr>
<tr>
<td>Continue opioid post discharge only if absolutely necessary</td>
<td>Communicate medication changes made in hospital and plan to primary care provider/community pharmacy for ongoing pain management</td>
</tr>
<tr>
<td>Prescribe the minimum appropriate duration of discharge Rx</td>
<td>Review pain control plan with patient</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td>Provide naloxone kit and teaching if discharged on &gt;50 MME/day or if patient has a history of opioid use disorder</td>
</tr>
</tbody>
</table>

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MORE Tool Part II


Risk for Substance Use Disorder
- History of any SUD
- Psychiatric diagnosis
- Family history of SUD
- PNEF restriction or other indication of opioid misuse

Risk Factors for Both SUD and Overdose
- Multiple overlapping fills of opioids on PNEF
- Multiple prescribers for opioids on PNEF
- Receiving > 50 MME of opioid/day (but less than 100 MME)
- Receiving over 100 MME of opioid/day (give 2 points)

Approach to Opioid Adverse Effects

<table>
<thead>
<tr>
<th>Medications for Opioid Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sedation</strong></td>
</tr>
<tr>
<td>Can be expected when first starting opioids in naïve patient, and will generally self-resolve within a short time</td>
</tr>
<tr>
<td>Assess patient for DIMS criteria; if there is a significant change in LOC after being stabilized on an opioid dose</td>
</tr>
<tr>
<td>May require decrease in dose or switch to a different opioid</td>
</tr>
<tr>
<td>Monitor for signs of respiratory depression in patients that are heavily sedated</td>
</tr>
<tr>
<td><strong>Nausea</strong></td>
</tr>
<tr>
<td>PRN dosing of anti-emetics will be necessary when starting opioid medications in select patients</td>
</tr>
<tr>
<td>Generally subsides within days of starting opioid treatment</td>
</tr>
<tr>
<td>If persistent it would be reasonable to switching to a different opioid</td>
</tr>
<tr>
<td><strong>Severe Respiratory Depression</strong></td>
</tr>
<tr>
<td>1) Naloxone 0.1-0.2mg iv q 2-3 min until RR &gt; 10 or Naloxone 0.1-0.2mg sc q5-10min until RR &gt; 10</td>
</tr>
</tbody>
</table>

Morphine Milligram Equivalency Chart

<table>
<thead>
<tr>
<th>Opioid</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>1</td>
</tr>
<tr>
<td>Codeine</td>
<td>0.15</td>
</tr>
<tr>
<td>Fentanyl transdermal (ug/h)</td>
<td>2.4</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>4</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Conversion factor assumes the medication is given as the same dosage form (i.v./i.m) 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.

2) Strategies to Address British Columbia’s Prescription Opioid Crisis: Recommendations from the British Columbia Health Authority Substance Use Management Committee. BC Centre for Excellence in HIV/AIDS; New 2013.
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
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
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

**PROCEDURE:**

<table>
<thead>
<tr>
<th>Required Action Steps</th>
<th>Performed By</th>
<th>Supplemental Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pain Assessment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAUTION: Pain assessments conducted by pharmacists are available as time permits and upon request. Pain assessments conducted by pharmacists will not substitute for routine pain assessments to be conducted by nursing and physician staff established by other WellStar Health System (WHS) Policies and Procedures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STEP ONE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Review the electronic medical record (EMR) for information regarding pain etiology</td>
<td>Pharmacist</td>
<td>Review admission history and physical, progress notes, and nursing documentation for pain source, type, (pain history, if chronic), etc.</td>
</tr>
</tbody>
</table>
| 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:  
• P: Pain type, Palliating Factors, Exacerbating Factors  
• Q: Quality of Pain (How does it feel? Describe the pain.)  
• R: Region and Radiation of pain (Where does the pain occur? Does the pain Radiate?)  
• S: Severity of Pain (What is the patient’s pain score?) [See Job Aid 1 for various pain rating scales]  
• T: Timing. (How long has the pain been present? How long does the pain last?)  
• 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 reassessment 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**

<table>
<thead>
<tr>
<th>Department</th>
<th>Patient Name/Age/Gender</th>
<th>Bed</th>
<th>MRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 2N TELE (CARD)</td>
<td></td>
<td>255-01</td>
<td></td>
</tr>
<tr>
<td>CH 2S TELE (NEURO)</td>
<td></td>
<td>285-02</td>
<td></td>
</tr>
<tr>
<td>CH 2S TELE (NEURO)</td>
<td></td>
<td>271-01</td>
<td></td>
</tr>
<tr>
<td>CH 2S TELE (NEURO)</td>
<td></td>
<td>268-01</td>
<td></td>
</tr>
<tr>
<td>CH 2S TELE (MED)</td>
<td></td>
<td>305-01</td>
<td></td>
</tr>
<tr>
<td>CH 3N TELE (MED)</td>
<td></td>
<td>348-01</td>
<td></td>
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<td>CH 3N TELE (MED)</td>
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<td>361-01</td>
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<td>CH 3N TELE (RENAL)</td>
<td></td>
<td>357-01</td>
<td></td>
</tr>
<tr>
<td>CH 3S TELE (RENAL)</td>
<td></td>
<td>361-01</td>
<td></td>
</tr>
<tr>
<td>CH 3S TELE (RENAL)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CH 3S TELE (RENAL)</td>
<td></td>
<td>361-01</td>
<td></td>
</tr>
<tr>
<td>CH 4N BURN MED SURG</td>
<td></td>
<td>446-01</td>
<td></td>
</tr>
<tr>
<td>CH 4N BURN MED SURG</td>
<td></td>
<td>443-01</td>
<td></td>
</tr>
<tr>
<td>CH 4N BURN MED SURG</td>
<td></td>
<td>440-01</td>
<td></td>
</tr>
<tr>
<td>CH 4N BURN MED SURG</td>
<td></td>
<td>446-01</td>
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<td>CH 4N BURN MED SURG</td>
<td></td>
<td>443-01</td>
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<tr>
<td>CH 4N SURG</td>
<td></td>
<td>434-01</td>
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</tr>
<tr>
<td>CH 4N SURG</td>
<td></td>
<td>406-01</td>
<td></td>
</tr>
</tbody>
</table>
# PDMP Access-Analgesic Medication Reconciliation

1-click access available to all physicians and pharmacists

## Pain Medication Reconciliation and Profile Review

**Step Two:**

<table>
<thead>
<tr>
<th>2.1 Reconcile pain medications</th>
<th>Pharmacist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure pain medications are properly reconciled (See WellStar Health System Medication Reconciliation policy MU-04-011)</td>
<td></td>
</tr>
<tr>
<td>Pharmacist may verify the outpatient pain regimen by reviewing Georgia PDMP reports, counting the patient's outpatient pharmacy, or examining the patient's prescription bottles</td>
<td></td>
</tr>
<tr>
<td>Compare the current pain medication list to the outpatient pain medication list</td>
<td></td>
</tr>
<tr>
<td>The pharmacist will not recommend the removal of any pain medications that are uncontrolled 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.</td>
<td></td>
</tr>
<tr>
<td>Contact provider prior to discontinuing or resuming any uncontrolled pain medications</td>
<td></td>
</tr>
</tbody>
</table>
### Surveillance of Patients at High-Risk for Opioid ADR

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
- Review labs, patient demographics (height, weight, CrCl), and past medical history to identify risk for adverse drug events
- 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)

<table>
<thead>
<tr>
<th>Drug Event</th>
<th>Chief Complaint</th>
<th>CrCl</th>
<th>Pharmacy Consults</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOSS</td>
<td>Chest Pain</td>
<td>51.2 ml/min (A)</td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
<tr>
<td>POSS</td>
<td></td>
<td></td>
<td>Pharmacy to dose antibiotics</td>
</tr>
<tr>
<td>MOSS</td>
<td>Cellulitis, Pt sent over from Villa</td>
<td>134 ml/min</td>
<td>Cobb Pharmacy to Dose Basal Bolus Insulin</td>
</tr>
<tr>
<td>POSS</td>
<td>Burn</td>
<td>177.8 ml/min (A)</td>
<td>Cobb Pharmacy to Dose Basal Bolus Insulin</td>
</tr>
<tr>
<td>MOSS</td>
<td>Drainage from belly button…</td>
<td>68 ml/min</td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
<tr>
<td>POSS</td>
<td></td>
<td></td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
<tr>
<td>MOSS</td>
<td></td>
<td>133.9 ml/min</td>
<td>Pharmacy to dose medication</td>
</tr>
<tr>
<td>POSS</td>
<td></td>
<td>214.6 ml/min (A)</td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
<tr>
<td>MOSS</td>
<td>Dehydration</td>
<td>311.3 ml/min (A)</td>
<td>Pharmacy to dose TPN</td>
</tr>
<tr>
<td>POSS</td>
<td></td>
<td>115.3 ml/min</td>
<td>Pharmacy to dose medication</td>
</tr>
<tr>
<td>MOSS</td>
<td>Burn</td>
<td>128.8 ml/min</td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
<tr>
<td>POSS</td>
<td>Facial Droop</td>
<td>84.8 ml/min</td>
<td>Pharmacy to dose medication</td>
</tr>
<tr>
<td>MOSS</td>
<td>Fatigue, Abdominal Pain…</td>
<td>123.5 ml/min</td>
<td>Pharmacy to dose TPN</td>
</tr>
<tr>
<td>POSS</td>
<td></td>
<td>152.3 ml/min (A)</td>
<td>Consult Pharmacy for Pain Management</td>
</tr>
<tr>
<td>MOSS</td>
<td>Frost Bite</td>
<td>116.3 ml/min</td>
<td>Consult Pharmacy for Pain Management</td>
</tr>
<tr>
<td>POSS</td>
<td>Burn</td>
<td>48.8 ml/min (A)</td>
<td>Consult Pharmacy for Pain Management</td>
</tr>
<tr>
<td>MOSS</td>
<td>Frostbite</td>
<td>119.9</td>
<td>Pharmacy to dose IV vancomycin</td>
</tr>
</tbody>
</table>


Analgesic Stewardship Activities—All Pharmacists

3.2. Modify the patient’s tolerable regimen as necessary, to prevent/manage opioid-induced constipation

Pharmacist

- The pharmacist may order an adjustment to a patient’s tolerable regimen based on an evaluation of the patient’s opioid regimen, opioid administration frequency, and elimination pattern (See Job Aid A)
- Orders will be signed “Per Protocol No Cough Required”

3.3. Determine the appropriateness of fentanyl patch orders

Prescriber

- The pharmacist will review fentanyl patch orders to determine indication and appropriateness
- The pharmacist will contact the provider for all fentanyl patch orders used to manage acute pain or fentanyl patch orders received for opioid naive patients (Job Aid 5)
Analgesic Stewardship Activities-All Pharmacists
Benefits of Incorporating a Pain Management Pharmacist into the Inpatient Care Model


• 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%)
• 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

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

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

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

• Boot camp style program
  • 1 staff pharmacist from hospitals without a credentialed 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
Figure 3

**IV Opioids**
- 20% reduction in average doses/month

**Oral Opioids**
- 0% change in average doses/month

**Oral Acetaminophen**
- 47% increase in average doses/month

**IV Ketorolac**
- 11% increase in average doses/month
Wellstar Health System Experience

Medication Errors Identified

Figure 4

- **Fentanyl Patch**: 54.2% Improvement
- **Methadone**: 65.7% Improvement
- **Buprenorphine**: 33.3% Improvement
## Figure 6

<table>
<thead>
<tr>
<th>Number of patients requiring naloxone per 1000 opioid administrations</th>
<th>Pre-Intervention (June 2018-December 2019)</th>
<th>Post-Intervention (January 2020-December 2021)</th>
<th>35.5 % reduction in patient events</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.46</td>
<td>2.88</td>
<td></td>
</tr>
</tbody>
</table>
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
- Kennesaw Hospital: since 2014
- PGY2 Pain Management and Palliative Care Residency initiated 2022
- Pauley 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 (JTC) 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.

Conclusion

- Described the development and implementation of a system-wide opioid stewardship program at a large health system.
- The program includes a comprehensive assessment and monitoring protocol for respiratory depression and sedation.
- Discussion of potential impact on opioid risk prediction and the impact of peripherally acting μ-opioid receptor antagonists.

References
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.