
National Infusion Collaborative Clinical Meeting

Summer Clinical Meeting
June 24, 2026

Meeting Logistics and Introductions



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Navigating Zoom

Q&A Box: For any questions or comments throughout the presentation

Raise Hand: For the open mic discussion, please press “Raise Hand” if you wish to speak

Post-Meeting Survey: Following today’s meeting, please let us know how we can improve going forward

Agenda



National Infusion Collaborative Infusion Trends

Joanne Hatfield, PharmD, BCPS

Director of Clinical Solutions
Bainbridge Health

Balancing Safety and Clinical Flexibility with PCA Medication Delivery

Carin Bouchard, PharmD, BCPS

Clinical Pharmacist, Drug Policy Analyst
UW Health

Courtney Olson, MSN, RN

Nurse Informaticist
UW Health

National Infusion Collaborative Member Survey

Open Mic / Q&A

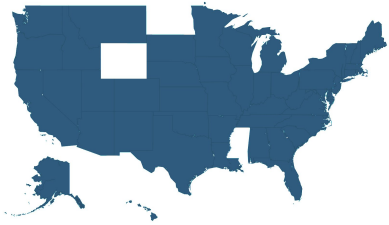
National Infusion Collaborative



National Infusion Collaborative



3/1/26 - 5/31/26



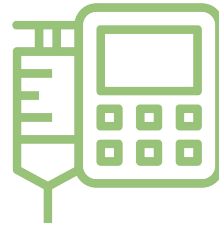
>800

Hospitals



>100,000

Infusion Pumps



>22 million

Infusion Records



> 1 million

Alerts

National Infusion Collaborative



Key Performance Indicators

3/1/26 – 5/31/26

Compliance

Alert Rate

Override Rate

Pediatric Network

89.4%

7.5%

65%

Adult Network

90.7%

5.2%

70%

Interoperability Network

90.9%

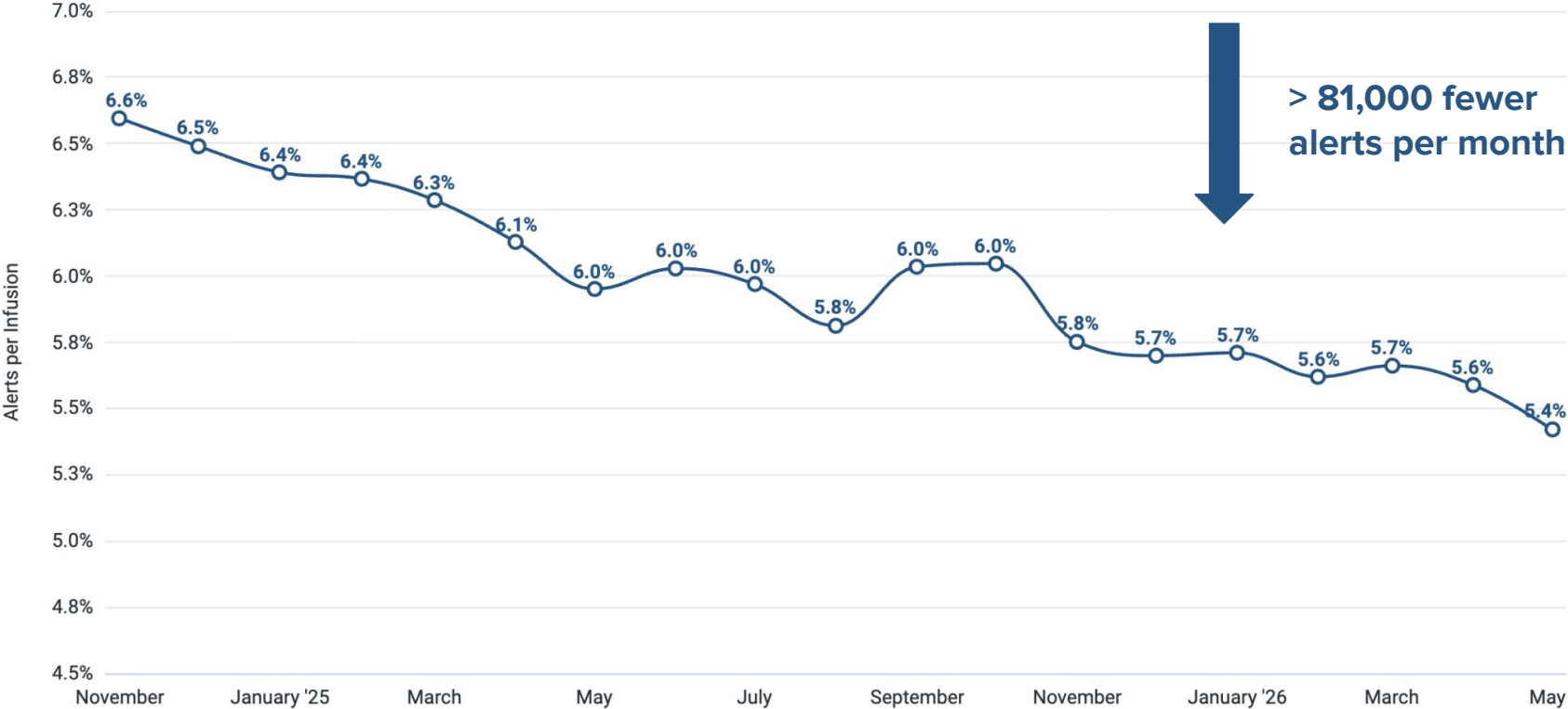
5.0%

71%

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Alert Rate





PCA Workflows

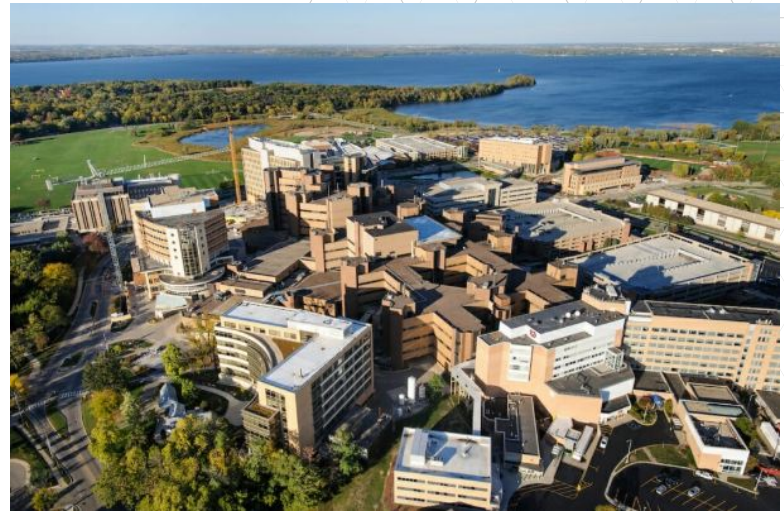
Thinking Outside the Syringe

Carin Bouchard, PharmD, BCPS - Drug Policy Analyst, Smart Infusion Pump Librarian

Courtney Olson, RN, MSN - Nurse Informaticist

UW Health

- University Hospital
 - A 505-bed regional referral center and Level I adult and pediatric trauma center
- American Family Children's Hospital
 - A 111-bed comprehensive pediatric medical and surgical center
- East Madison Hospital
 - A 56-bed, community-based hospital
- UW Northern Illinois Hospital
 - A 339-bed acute care hospital in Rockford, Illinois



UW Health Technology

- Electronic Medical Record: Epic™
 - One platform for adult and pediatric patients
- Smart Infusion Pumps:
 - Alaris™ – all clinical areas
 - Syringe, Large Volume (LVP), Patient Controlled Analgesia (PCA)
 - Three care profiles
 - B. Braun – transportation
 - MedFusion™ – respiratory infusions
 - CADD-Solis™ – epidural/perineural infusions
- Alaris™ - EPIC™ interoperability since 2019
- Drug libraries managed by pharmacy
- Infusion workflows, drug library testing, troubleshooting, data review, and project implementation co-managed by pharmacy and nursing
- Governance: Smart Pump Oversight Committee

General Project Background

- For PCA, UW Health has historically maintained two concentrations of morphine, hydromorphone and two volumes of fentanyl

| Drug | Concentration/Volume #1 | Concentration/Volume #2 |
|----------------------|-------------------------|-------------------------|
| Morphine | 1mg/ml | 10mg/ml |
| Hydromorphone | 0.2mg/ml | 1mg/ml |
| Fentanyl – 50 mcg/ml | 25ml | 50ml |

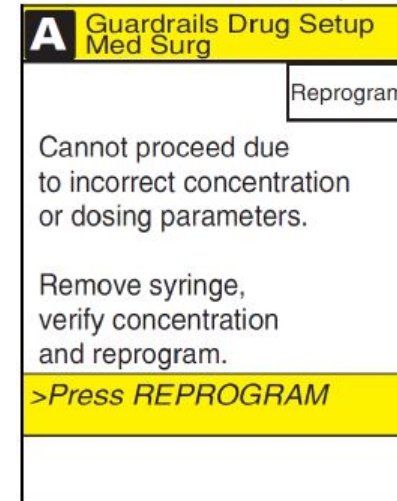
- These same medications are used as non-PCA infusions to support pain/sedation in our adult and pediatric ICUs

Alaris Background

- PCA build in Alaris™
 - PCA only available in pediatric and adult profiles
 - Therapies are used for all PCA medications
 - Therapy naming convention has changed over time
 - Standard, Opioid tolerant
 - Standard, Concentrated/High Dose
 - Total dose/Total volume (e.g. 30mg/30ml)
 - Alaris™ PCA library contains both soft AND hard dose limits on all PCA parameters
 - Different limits for each concentration/volume
 - Max dose limit is not used
 - Periodic, data driven limit evaluations have occurred as our PCA library evolved to support our patient needs

Alaris Background

- In rare instances, patient's opioid needs exceed what can be delivered on the PCA pump either due to
 - Hard limits
 - PCA Volume Check – “the 35% rule”
- In these cases, unsafe workarounds were being used
- A new approach was needed for highly opioid tolerant or end of life patients needing high doses of opioid



New Workflow Development

- The UW Health Alaris team evaluated options and developed 3 proposals to address this gap in care
 1. Maintain current state using 2 PCA concentrations/volumes only
 2. Add a third PCA concentration for morphine, hydromorphone
 - Maintain fentanyl with 2 volumes
 3. Develop a new workflow for that include a combination of PCA and infusion bag (PCA-Bag workflow)
- A risk assessment of each option was conducted to address
 - Patient safety
 - Quality of care
 - Staff satisfaction
 - Workflow efficiency
 - Regulatory compliance
- The PCA-Bag workflow option had the most benefit & least risk

New Workflow – PCA-Bag Workflow

- The PCA-Bag workflow is only to be used when a patient's opioid needs exceed what can be delivered on a concentrated/high volume PCA syringe
- The PCA-Bag workflow utilizes a linked order panel consisting of an opioid infusion bag AND a PCA syringe of the same medication

EPIC Medication Record Build

- New medication records were built in EPIC™
 - Opioid infusion bag records
 - No bolus from bag option
 - Specialized PCA records
 - No basal infusion option
 - Records were customized with specialized naming, ordering instructions, and administration instructions
- An order panel was built to house the new records
 - A non-weight-based bag/PCA option for patients $\geq 40\text{kg}$
 - A weight-based bag/PCA option for patients $< 40\text{kg}$
- An “Our Practice Alert” (OPA) was created for provider order entry and pharmacist verification

Concentrated Hydromorphone Infusion and PCA

Patients weight less than 40 kg

Patients weight equal to or greater than 40 kg

! HYDROmorphone HCl PF (Dilaudid) 100 mg in Sodium Chloride 0.9 % 50 mL CONCENTRATED infusion bag

Intravenous, CONTINUOUS, Starting today at 1530, Until Discontinued

Only to be used for the continuous infusion dose. See linked PCA order for PID, RN bolus/load dosing

Dispense from "Narcotic drip A" pocket in automated dispensing cabinet.

If administering via infusion pump (excluding syringe pumps or other secured/locked pumps), this medication must be secured in a Controlled Substance Lock Box. These infusions also require the use of port-less tubing.

And

! HYDROmorphone HCl in Sodium Chloride 0.9% 100 mg/50 mL CONCENTRATED PCA syringe

Intravenous

Loading Dose-initial set up only: Not Ordered

PCA Dose (PID): Not Ordered

Lockout Interval: Not Ordered

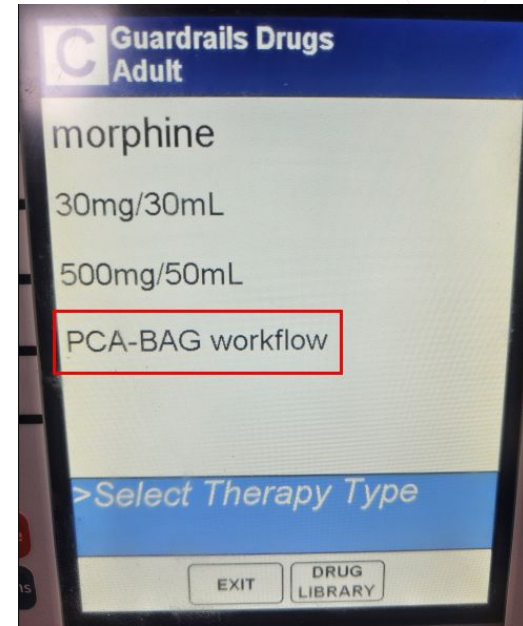
RN Bolus Dose: Not Ordered

RN Bolus: May Repeat Every: Not Ordered

Dispense from "Narcotic drip A" pocket in automated dispensing cabinet.

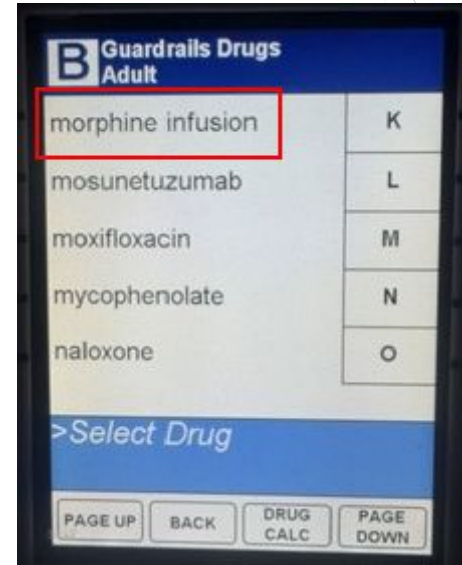
Alaris Entry Build - PCA

- New therapy entries were built in Alaris™ for each opioid type
 - Nursing input was sought for naming convention
 - Preference for total dose/total volume convention with special call out for new workflow
 - Disabled basal infusion option on PCA module for the PCA-Bag workflow option
 - Added a clinical advisory to the PCA-Bag workflow option
 - Reviewed historical prescribing data and involved clinical experts from acute pain and palliative care to establish limits



Alaris Entry Build – Bag

- New continuous infusion entries were built in Alaris™ for each opioid type
 - Only allowed LVP module option
 - Disabled bolus option
 - Added a clinical advisory
 - Reviewed historical prescribing data and involved clinical experts from acute pain and palliative care to establish limits



Nursing Workflows

- Opioid infusion bag
 - Infused using a lock-box and portless tubing which was standard workflow for other opioids infused on the LVP
 - Interoperability will be used to program on large volume pump
- Opioid PCA
 - Infused on the PCA channel using manual programming

Approvals

- There were multiple stages of approvals for this work:
 - Risk assessment
 - Medication record build
 - Alaris drug library build
 - Alaris drug library dose limits
 - OPA build
- Approvals were obtained from:
 - Risk Assessment workgroup
 - Medication Safety Committee
 - Smart Pump Oversight Committee
 - Nursing Practice Council
 - Palliative Care Service
 - Acute Pain Service
 - Nursing Pain Resource Group

Education

- Developed education for nursing, providers, and pharmacists for the PCA-Bag workflow
 - Education document with screenshots and workflows
- Shared education with adult and pediatric Nursing Pain Resource groups, Clinical Nurse Specialists, Pharmacy, Acute Pain Service, Palliative Care Team, and nursing leaders
- Targeted pharmacy education with demonstration was completed
- Adult and pediatric hematology/oncology units were chosen as resource units to help others if needed
- Education was published in a weekly organizational email as well as posted on an internal Alaris intranet site

Implementation

- The new workflow was released in November 2025
- Feedback from nursing, pharmacy, and provider groups has been positive
- Utilization data has been tracked since release
 - To date, 4 patients have successfully utilized the new workflow
 - There were instances of unintentional and inappropriate usage of the order panel
 - Targeted follow up with providers was completed to gain insight and recommendations for improvement of the ordering workflows

Lessons Learned

- Order panels with associated safety enhancement (OPA, ordering instructions, administration instructions etc.) alone were not enough to curb inappropriate ordering
 - Develop an adult and pediatric orderset to restrict ordering of the PCA-Bag workflow to encourage appropriate selection
 - Orderset will be restricted to certain service lines
 - Orderset name will reflect the targeted population
- Updating Alaris PCA module therapy naming was more disruptive than anticipated to nursing
 - Conversion from standard/concentrated to total dose/total volume
- Simplification of OPA messaging is critical to understanding
- Development of a workflow to deliver RN boluses only when no continuous infusion option is available on the PCA module
- In person demonstration and education of pharmacy staff is key

Next Steps

- Considering revising MAR naming of PCA-Bag workflow to allow for better recognition of the workflow
- Considering dual pharmacist verification of PCA-Bag workflow orders
- Continue to monitor utilization data with targeted follow up

Take aways

- Safely supporting PCA workflows is complex
- A one size fits all approach is likely not adequate
- Involving a multidisciplinary team in workflow evaluation, design, education, implementation, and follow up is key to success

- Questions?

- Contacts:
 - Carin Bouchard, PharmD: cbouchard@uwhealth.org
 - Courtney Olson, RN, MSN: colson@uwhealth.org

- Aligns with the goals of the NIC to provide an environment to share experiences and challenges.
- The aggregated results will be shared in the upcoming NIC meeting and State of Infusion Report. No individual results will be shared.
- 2026 Topic: **Biggest Challenges Facing Smart Infusion Pumps**
 - Survey link will be sent at the conclusion of this meeting
 - Responses requested by **July 10, 2026**

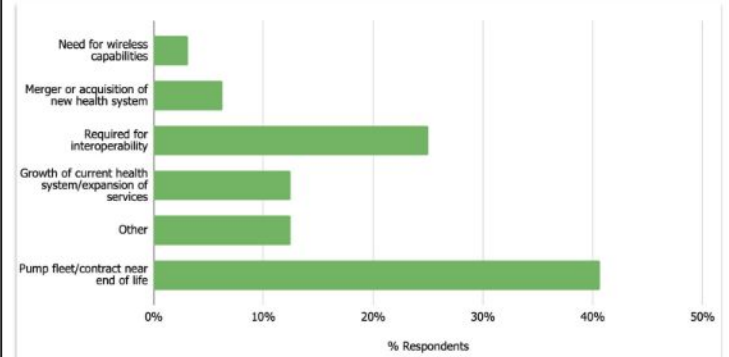
2024 National Infusion Collaborative Pump Transition Survey

Conducted May 2024 of NIC members

68%

...of survey respondents are considering transitioning to new infusion pumps within the next 2 years

Reasons for Considering New Smart Infusion Pumps



A horizontal bar with a blue segment on the left and a green segment on the right.

Questions?

Joanne Hatfield

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Sean O'Neill

seanoneill@bainbridgehealth.com

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