Collaborating to Improve Infusion Pump Updates

Midwest Medication Safety Symposium

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BEST CHILDREN'S HOSPITALS U.S.News & WORLD REPORT RANKED IN 9 SPECIALTIES 2019-20

Riley Hospital for Children
Indiana University Health

Objectives

- Identify the importance of assessing frontline team member knowledge related to infusion pump functionality.
- Demonstrate the process implemented for Riley pump updates in collaboration with National Database of Nursing Quality Indicators (NDNQI) audits.
- Develop a communication plan for individuals responsible for pump updates.

Reason for Action

- Current IV pump update process at Riley leaves approximately 40% of pumps with outdated datasets, leading to a risk for medication error.

- Scope: IV pumps located inside Riley Hospital for Children and outpatient settings
- Trigger: Alaris monthly updates do not have a defined process or an oversite for accountability
- Done: Alaris pump monthly updates have a defined process and an oversite for accountability

Alaris Pump Saturation Workgroup

- Clinical Engineering
- Clinical IS
- Nursing
- Pharmacy

Knowledge

Problem

- Frontline nurses unaware of update process and not assessing data set accuracy

Intervention

- Pre/Post Survey
- Awareness through huddles

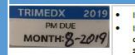
Knowledge

Is your Alaris Pump up to date to keep your patient safe?

[Display starting Feb 1, 2019]

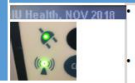
There are 4 steps to safe medication administration with an Alaris pump. Adopt the following practices *(in addition to 5 rights +2 and barcode scanning)* at the start of your shift/medication administration to ensure pump safety for your patients:

#1 Is the ***CLINICAL ENGINEERING LABEL*** current?



- If the label is current, move to step 2.
- If the label is not current, take the pump out of service and contact clinical engineering by filing a work order and placing the pump in your soiled equipment room.

#2 Is the ***DATA SET*** updated to the current month or month prior?

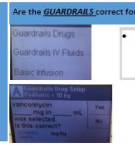


- Verify your pump has the current month data set. Alaris pumps are updated wirelessly, every month on the 3rd Wednesday of the month. The updates push needed profile and guardrail changes. Check if you have the current data set, move to step 3.
- If you have an old data set, you will follow the standard work document on how to update a pump. Your pump must be connected to wireless to be updated.

#3 Is the patient specific ***PROFILE*** appropriate for my patient's weight?

- Verify your are in the correct profile for weight. Pediatric profiles should be used for all patients at Riley, regardless of age. If the profile is correct, move to step 4.
- Adult profiles may be used in rare instances when specific medications do not exist in pediatric profiles. A conversation with pharmacy with recommendation to move to the Adult profile should occur when a drug is not available in the pediatric profile.

#4 Are the ***GUARDRAILS*** correct for each of my patient's medications?



- Verify you have the correct guardrail for each drug. Guardrails ensure the drug is being given at an appropriate dose for the patient.

Data Set (IU Health) → Profile (Patient) → Guardrail (Drug)

Created by the Alaris Pump saturation workgroup 1/2019

Alaris Pump Dataset Upgrade/Upload Instructions

NOTE:

- Please complete ALL steps!
- Updating the pump will clear all volume infused for I/O's

Step ONE:

- Turn the pump off

Step TWO:

- Turn the pump on AND
- Select a NEW patient and NEW profile
- Select Confirm

NOTE:

- The pump is connected to the wireless network as noted by a solid green light in the center of the wireless symbol
- When the green light is flashing, the pump is actively downloading the new dataset (may take a couple of minutes)

Step THREE:

- When the light STOPS flashing, turn pump off

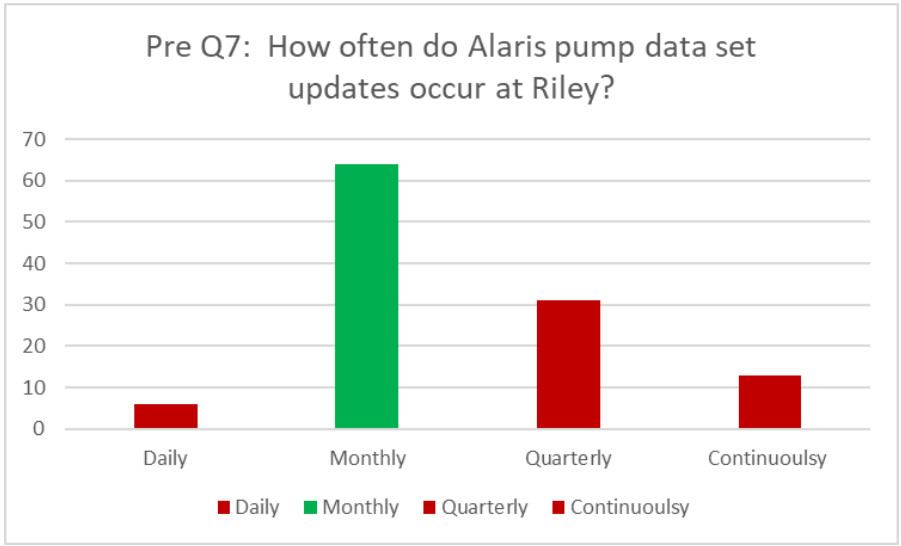
Step FOUR:

- Turn the pump on AND
- Select a NEW patient and NEW profile
- Select Confirm
- The new dataset title will appear across the top of the pump screen

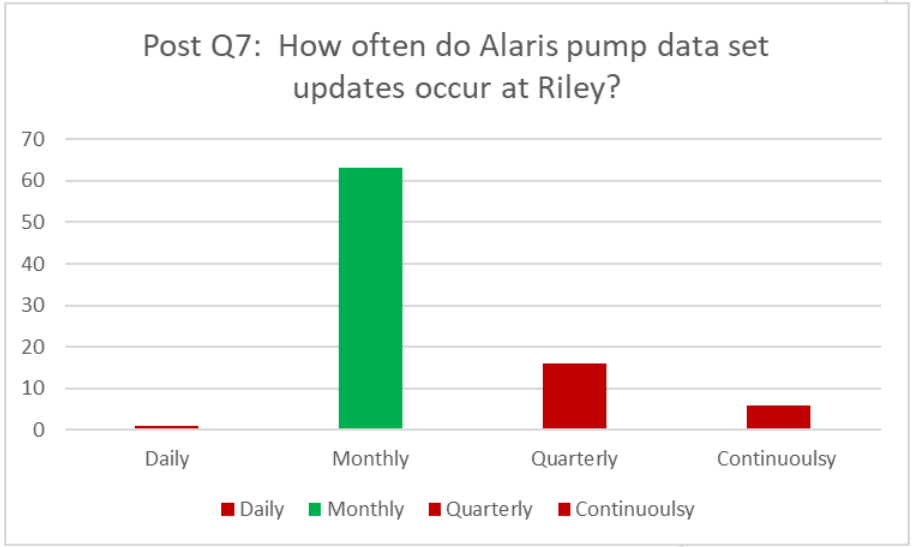
Step FIVE (for locations utilizing Alaris-Cerner Bi-directionality):

- For infusions running before the pump update, manually program the correct medication and/or fluid from the guardrail library **Do NOT select a generic "Basic Infusion" or .IV Fluid.** You must select the correct medication/fluid. Ex: .IV Fluid, NaCl 0.9%
- Press Start

How often do Alaris pump dataset updates occur at Riley?



56% correct



73% correct

Dataset name

Problem

- Difficult to assess if dataset is current based on name

Intervention

- Expiration date added to dataset name

IV pump update day (3rd Wednesday of the month)

Problem

- Pump updates occur on high census days
- NDNQI auditors routinely pulled into staffing
- Auditors responsible for updating pumps

Intervention

- NDNQI audits switched to Monday with lower census
- Less likelihood of staffing responsibility on Mondays
- Bedside nurses responsible for routine Wednesday pump updates, followed by Monday audit

IV pump update day (3rd Wednesday of the month)

- IV pump update (Wednesday)
- New NDNQI/ pump update audit day (Monday)

Communication

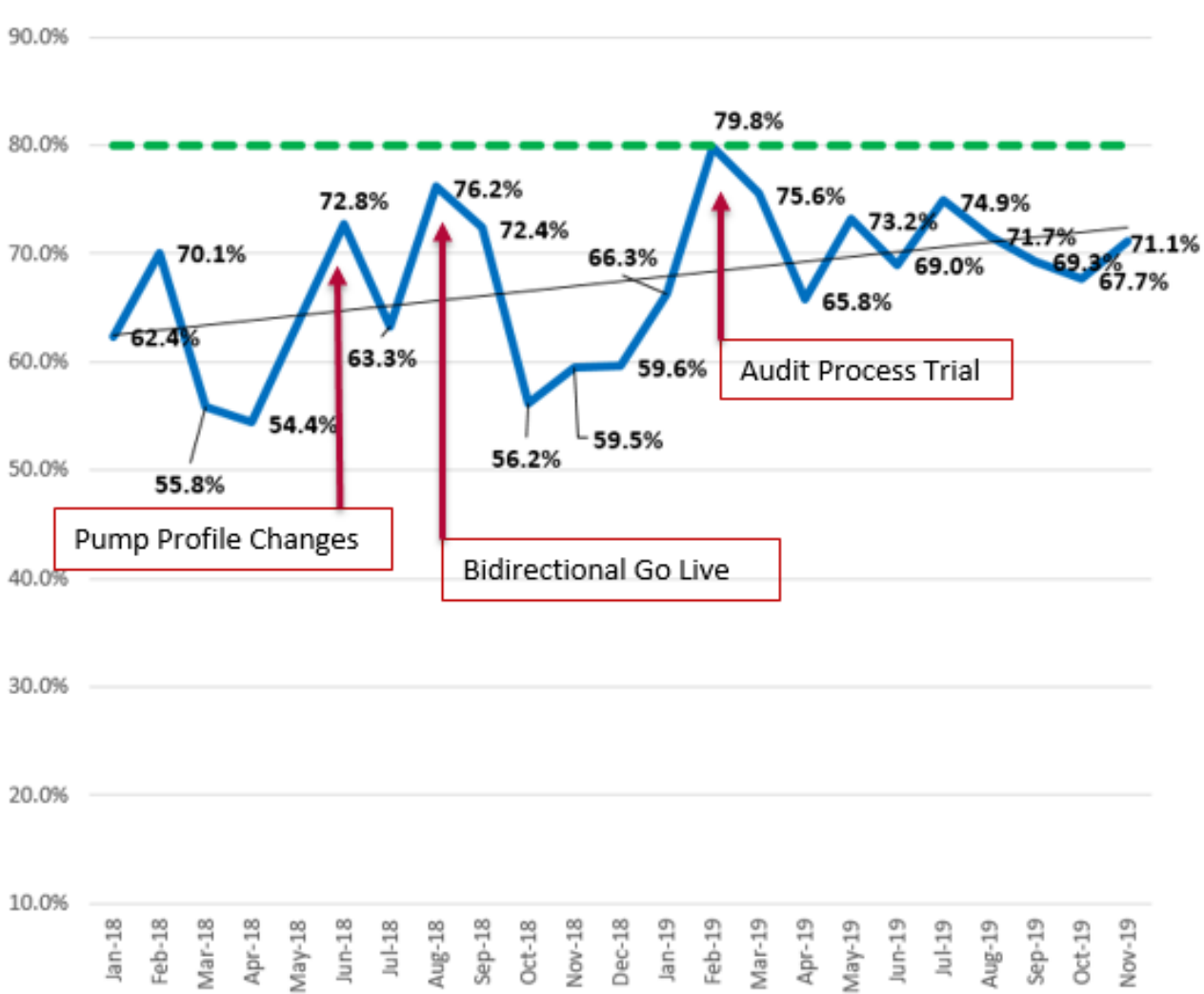
Problem

- No process to maintain list of current NDNQI auditors
- Managers do not receive communication about pump updates

Intervention

- Universal distribution list created with process for update in place
- Invites added to all manager and auditor calendars
- Pump updates discussed in daily leadership huddle

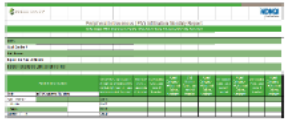
% pumps with correct data set



Sharing the Data

- Communication flyers to leaders monthly showing progress on IV Pump Saturation

NDNQI/ Alaris Pump Audit Data November 2019



IV PUMP SATURATION

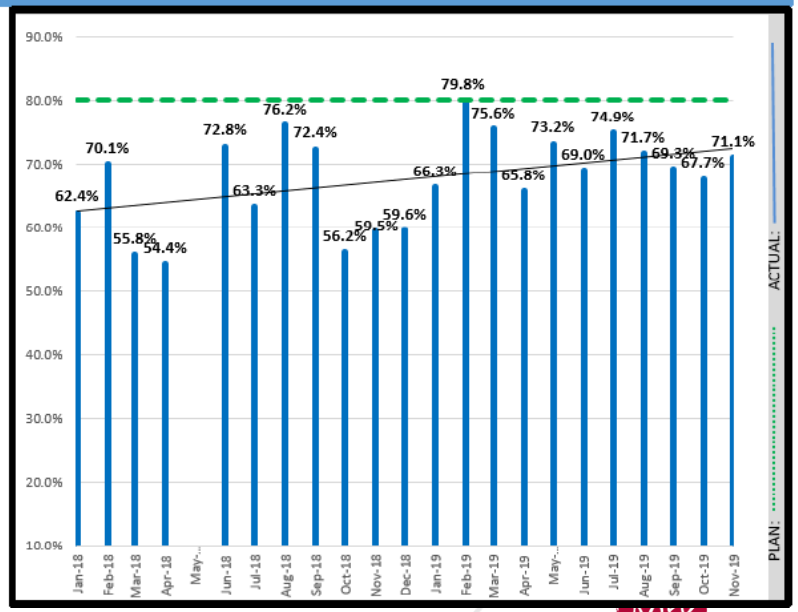
- ✓ November IV Pump Saturation

  71.1%

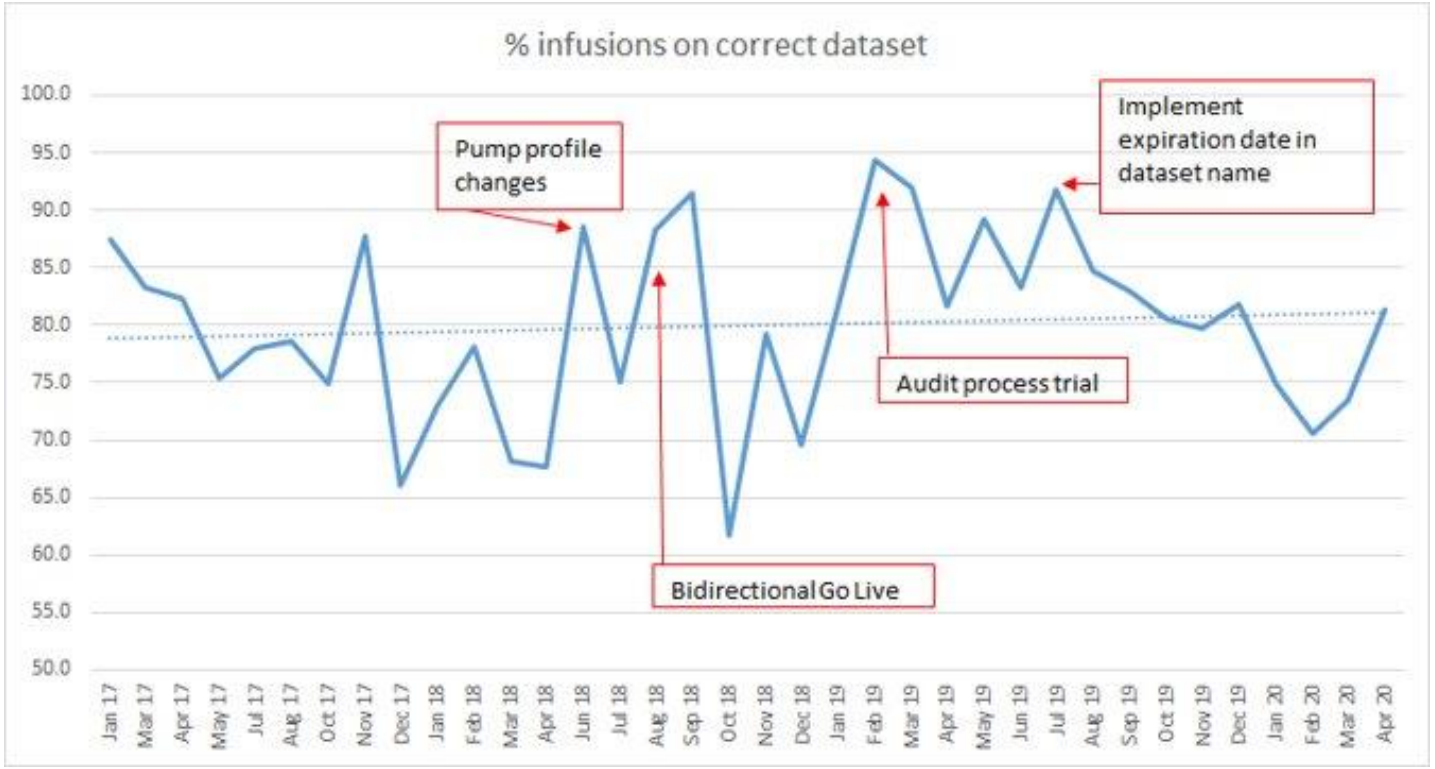
- ✓ IV Pump Saturation goal

  80%

- ✓ Success for pump updates is dependent on manager reminder in huddle on pump update day. Tools located on manager /auditor calendars on the 3rd Wednesday of the month for reference.
- ✓ Please send barriers to pump updates to Elizabeth Burnett. eburnet2@iuhealth.org



% infusions with correct data set



Sharing the Data

- Communication flyers to leaders monthly showing number of expired infusions

NDNQI/ Alaris Pump Audit Data
April 2020

IV PUMP INFUSIONS RUN ON APPROPRIATE DATASET

Our goal is that 100% of patient infusions are run on the correct dataset.

Data Set Used for Infusion	# of Infusions one week after pump update	% of Infusions one week after pump update
April 2020	1956	81%
Expired	450	19%

- ✓ Based on feedback, pump update success has increased when managers remind teams of updating pumps in huddle on pump update day.
- ✓ Reference tools are available on manager /auditor calendars on the 3rd Wednesday of the month.
- ✓ Utilizing the most recent dataset ensures guardrails and medication concentrations are accurate. Help ensure safe medication delivery by sharing data with team members and updating pumps immediately.

Did you see that culture shift?
Be patient. Change takes time.