Improving Restraint Safety through Improved Electronic Medical Record (EMR) Documentation

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Cincinnati Children's Hospital Medical Center

- 513 Registered Beds
- 12,000 Employees; Over 3,000 RN's
- Ranked 2nd in NIH Pediatric Funding
- Top 10 Pediatric Hospitals U.S. News & World Report 2005 through 2010
- Received the 2008 Picker Award for Excellence in honor of significant achievements in family-centered care
- Awarded Magnet Designation February 2009

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AMERICAN NURSES CREDENTIALING CENTER

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Objectives

- Identify methods for improvement of restraint documentation
- Describe how proper restraint documentation supports patient safety

Definitions

- **Non Violent/ Non Self-Destructive Restraints**: Restraints used to support medical healing/treatment and/or when a patient interferes with treatment, or when patient has a need for protective intervention and it is determined that other less restrictive alternatives are not effective
- **Violent Restraint**: Restraints used when the patient's behavior is violent or aggressive and where the behavior presents an immediate and serious danger to self or the safety of others

Impetus for Change

- Restraint use poses significant risk to patients:
  - Hartford Courant series on death in restraints

    http://www.charlydmiller.com/LIB05/1998hartforddata.html

    Though rare, pediatric deaths from inpatient restraint usage have occurred
- Decreasing Restraint use has many positive effects
- New Electronic Medical Record systems offer options to facilitate documentation of restraint use and methods for review of documentation
- Ongoing regulatory attention to restraint use

Risks of Restraint Usage Not Limited to Increased Mortality

- Risks of restraint use include but are not limited to:
  - Pressure ulcers, skin irritation
  - Decreased mobility
  - Loss of muscle tone
  - Discomfort, increased pain
  - Injuries from falls
  - Increased stress on heart

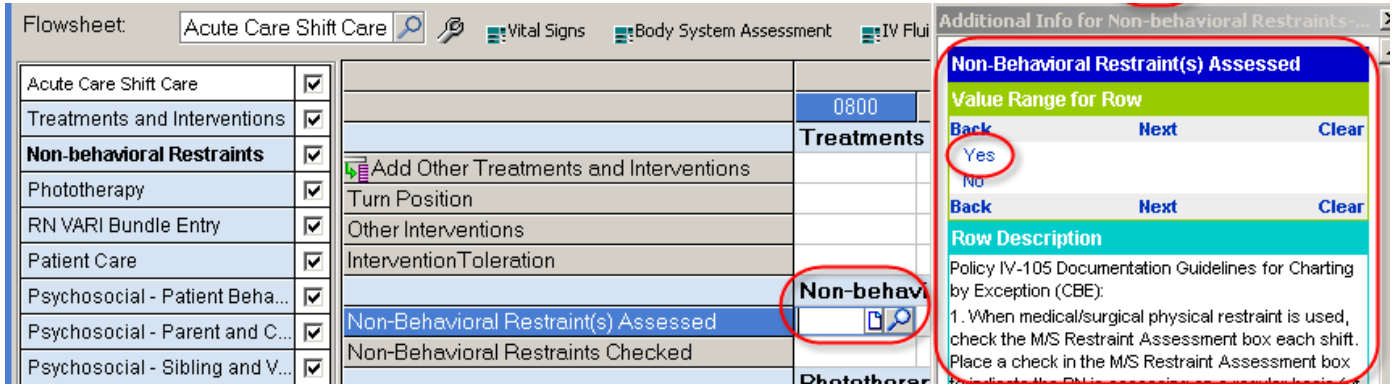
See: http://www.uwosh.edu/ccdet/caregiver/Documents/Evergreen/Handouts/ednarisksbftsfdm.pdf for a more complete listing of risks and benefits of decreased restraint use.

Purpose of Improvement Efforts

- To improve restraint safety by improving the accuracy of EPIC EMR documentation.
  - An electronic flowsheet including required regulatory components of restraint documentation was created and implemented.
  - Nurses were prompted to complete the Restraint Flowsheet and Restraint plan of care (POC).

Strategy and Implementation

- Multiple strategies were used to improve restraint safety:
  1. The Restraint Flowsheet was developed with nursing staff and management (2010). Original version of Restraint Flowsheet was imbedded in the Shift Care flowsheet:



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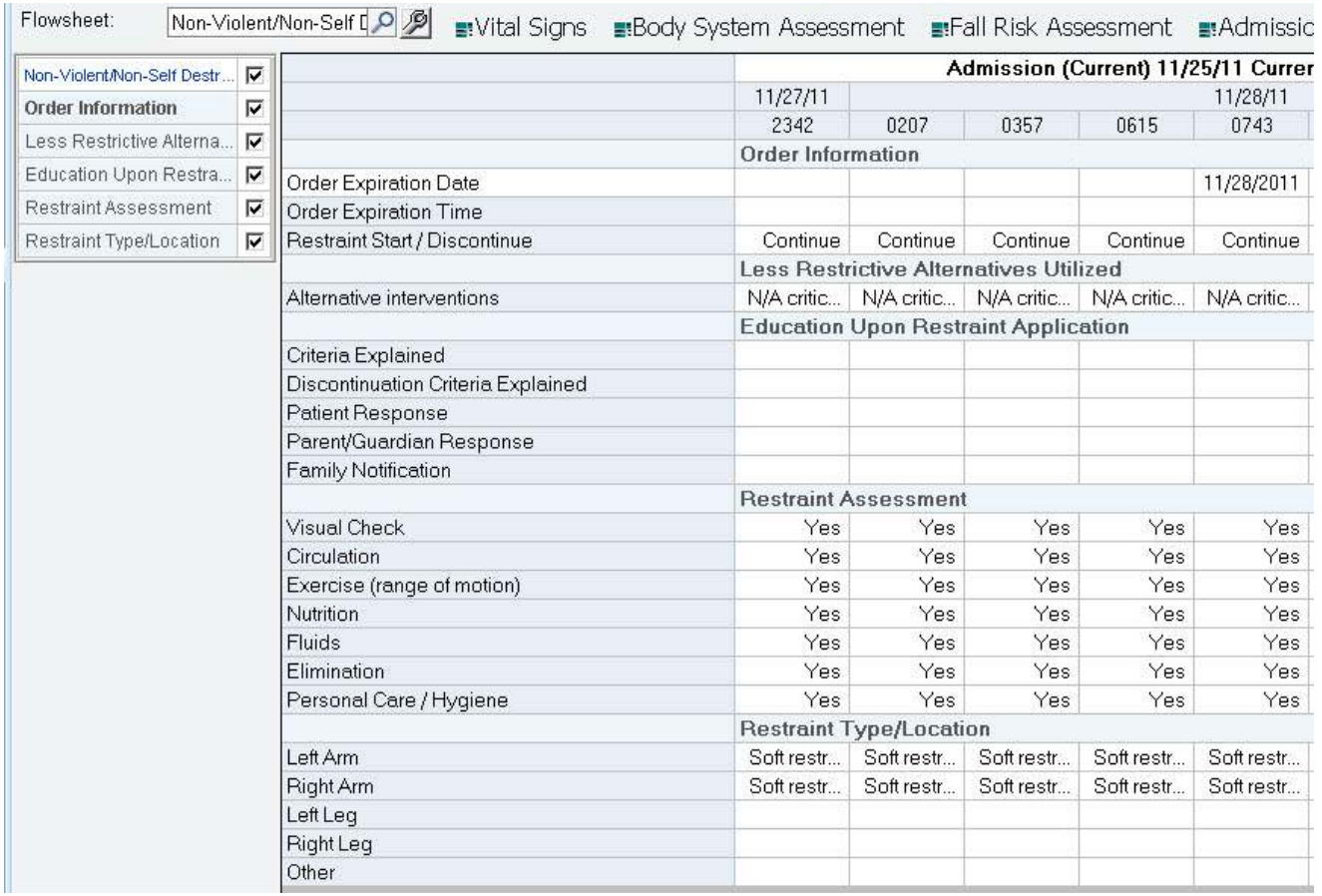
Strategy and Implementation

Revised Flowsheet

Current version serves as a checklist:



Flowsheet: Non-Violent/Non-Self D | Vital Signs | Body System Assessment | Fall Risk Assessment | Admissic

Non-Violent/Non-Self Destr...	☑
Order Information	☑
Less Restrictive Alterna...	☑
Education Upon Restra...	☑
Restraint Assessment	☑
Restraint Type/Location	☑

	Admission (Current) 11/25/11 Currer				
	11/27/11				11/28/11
	2342	0207	0357	0615	0743
	Order Information				
Order Expiration Date					11/28/2011
Order Expiration Time					
Restraint Start / Discontinue	Continue	Continue	Continue	Continue	Continue
	Less Restrictive Alternatives Utilized				
Alternative interventions	N/A critic...	N/A critic...	N/A critic...	N/A critic...	N/A critic...
	Education Upon Restraint Application				
Criteria Explained					
Discontinuation Criteria Explained					
Patient Response					
Parent/Guardian Response					
Family Notification					
	Restraint Assessment				
Visual Check	Yes	Yes	Yes	Yes	Yes
Circulation	Yes	Yes	Yes	Yes	Yes
Exercise (range of motion)	Yes	Yes	Yes	Yes	Yes
Nutrition	Yes	Yes	Yes	Yes	Yes
Fluids	Yes	Yes	Yes	Yes	Yes
Elimination	Yes	Yes	Yes	Yes	Yes
Personal Care / Hygiene	Yes	Yes	Yes	Yes	Yes
	Restraint Type/Location				
Left Arm	Soft restr...	Soft restr...	Soft restr...	Soft restr...	Soft restr...
Right Arm	Soft restr...	Soft restr...	Soft restr...	Soft restr...	Soft restr...
Left Leg					
Right Leg					
Other					

Strategy and Implementation

Training & Daily Audits

2. Mandatory online training was completed by clinical staff (2010).
3. Daily Audit of Non-Violent Restraint Orders (ongoing)
   - Nursing Informatics Decision Support Analyst conducts audits of active restraint orders thirty minutes prior to the AM shift change, when both AM and PM charge nurses are present. Records are reviewed for both the presence of flowsheet data and a Restraint Plan of Care.
   - Any identified deficiencies are then called to the charge nurse(s).
   - A second audit performed two hours later verifies deficiencies have been corrected. If not corrected, senior management is notified. Run charts are distributed weekly to management.
   - *This strategy is ultimately unsustainable.*

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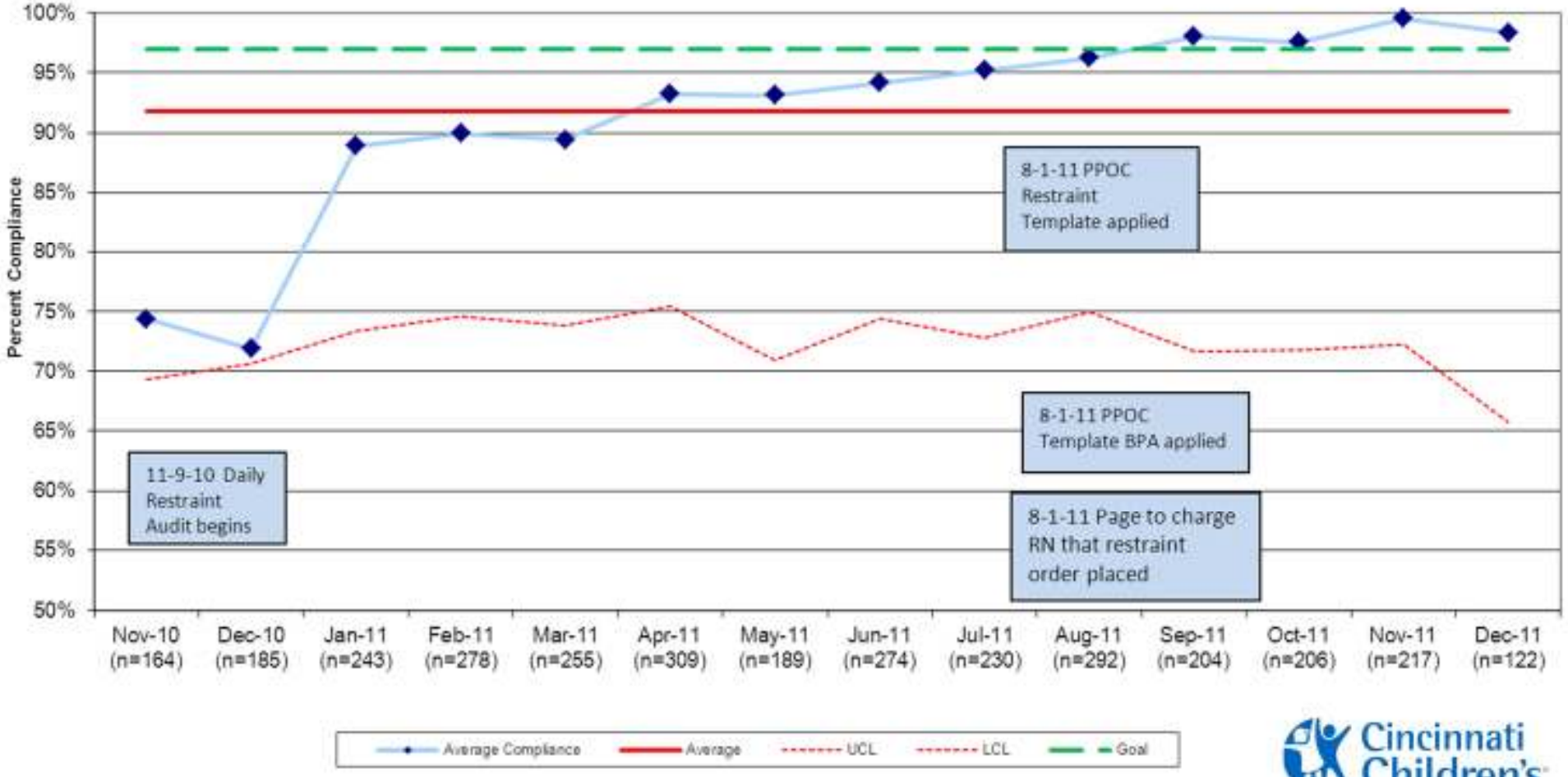
Non-Violent Restraint PPOC Documentation Compliance, Non-Behavioral Health U-Chart

Population: All patients admitted to an inpatient unit who had non-violent restraints applied Sunday through Friday
PPOC restraint template applied calculation: # of patients with active non-violent restraint orders at the time of the manual audit that have the Restraint Template applied in PPOC
patients with restraint orders calculation: # of patients with active non-violent restraint orders in place at least 8 hours at the time of the manual audit



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Strategy and Implementation

Automated Metrics & POC Revision

4. Two automated EMR-based metrics for restraints were created to efficiently capture percent of compliance. These metrics were included in the dashboard of nursing-sensitive measures:
   - Percentage of expected safety checks performed
   - Percentage of Flow Sheet records that had a valid order
5. Restraints were removed from order sets to eliminate the potential for "PRN-like" restraints. The Restraint care plan now needs to be applied as dictated by patient need. This eliminates duplication and simplifies nursing work flow.

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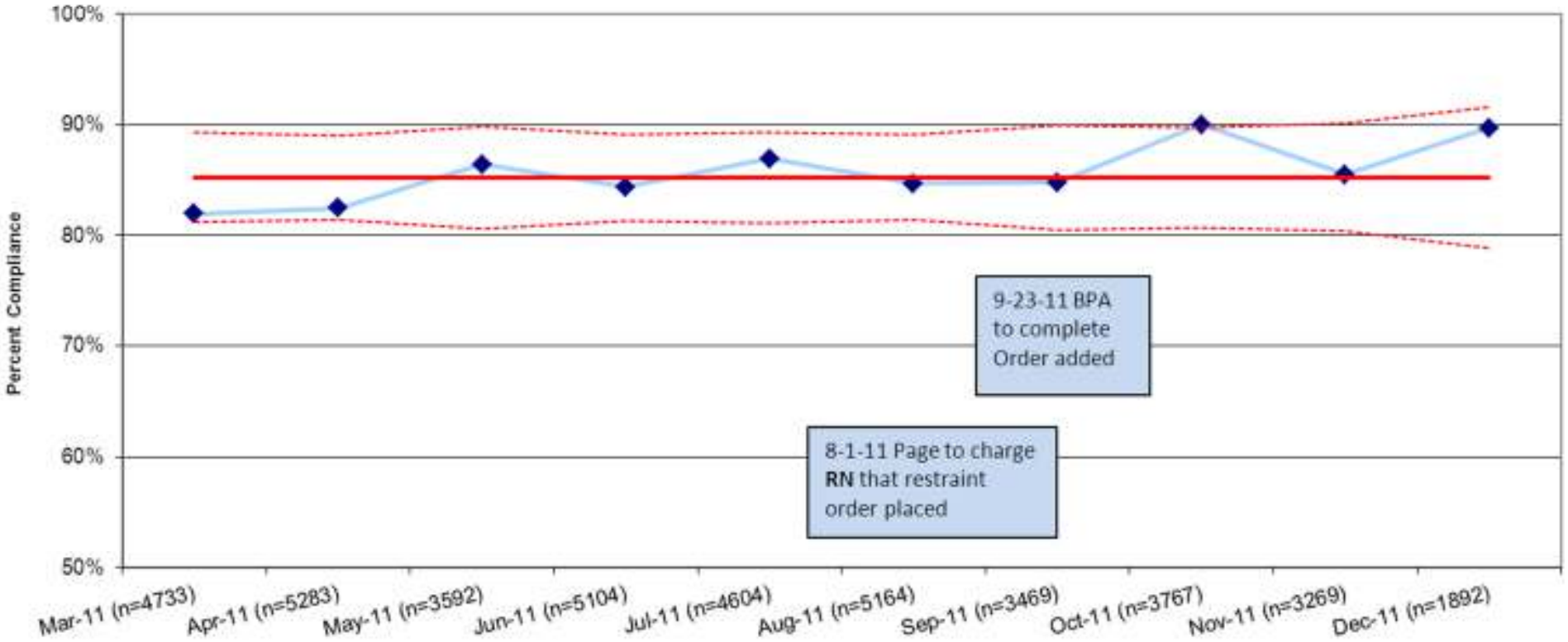
Percent of restraint safety checks completed housewide.
U-Chart

Population: All patients admitted to an inpatient unit with restraint orders
checks completed calculation: # of checks that are documented in flowsheet during order duration that have completed check documentation, where completed means at least one check variable is not null
expected checks calculation: # of checks expected based on the order duration



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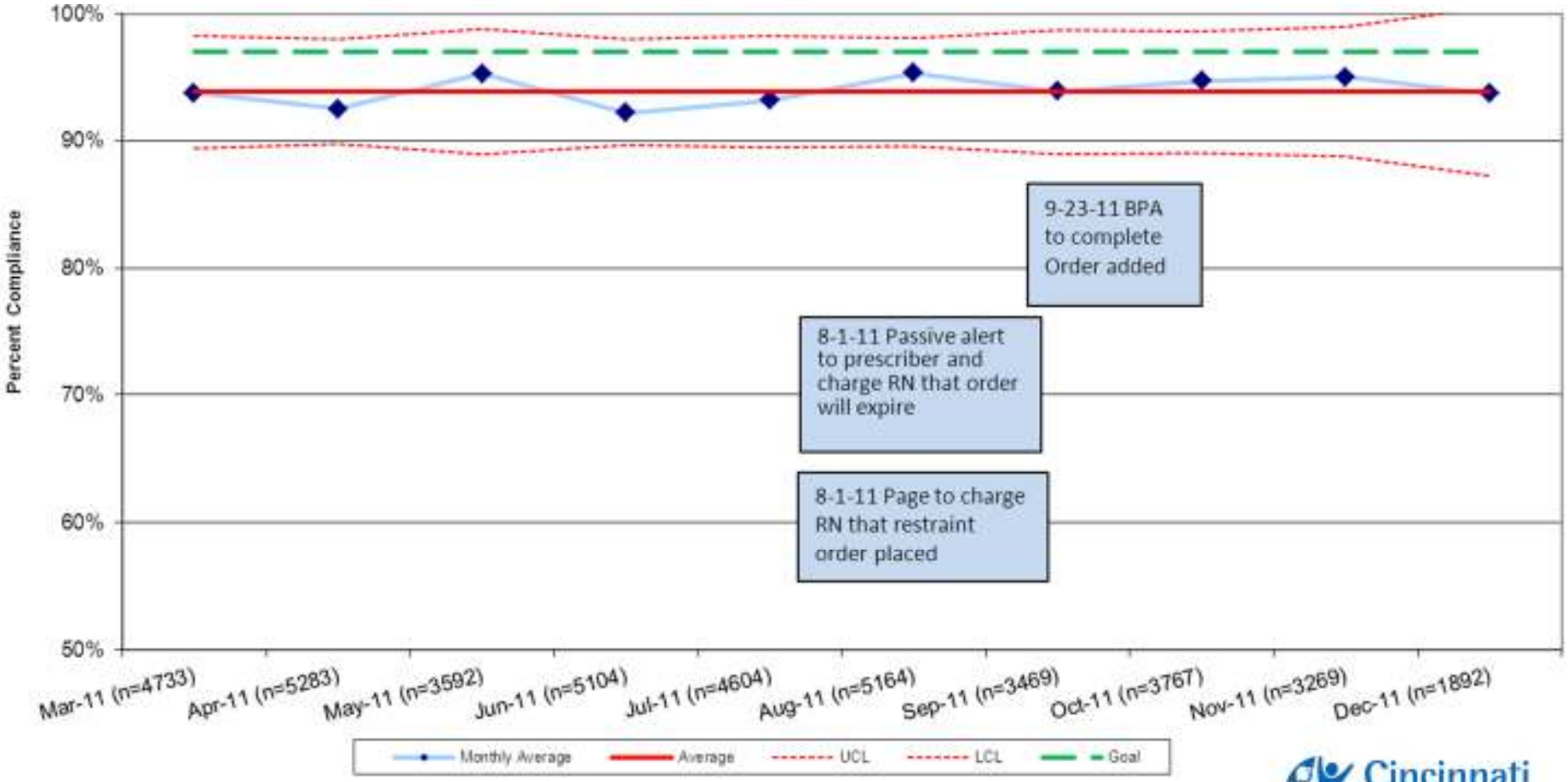
Restraint Flowsheet rows with Valid Orders-Housewide.
U-Chart

Population: All patients admitted to an inpatient unit with restraint flowsheet data
flowsheets with valid order calculation: # of doc flowsheet records that have an order which covers the time of the flowsheet
restraint flowsheet rows calculation: # of valid doc flowsheet records for restraints/seclusion



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Other Modifications to EMR

- **Plan of Care Best Practice Alert (BPA) applied**—When an entry is made in specific Flowsheet fields, a BPA will notify the nurse that a Restraint plan needs to be added to the POC.
- **Page to charge nurse that restraint order was placed**—When the order is placed and acknowledged by the nurse, an automated page is sent to that unit's charge nurse so resources and expertise are devoted to the restrained patient.

Other Modifications to EMR

Best Practice Alert to Complete Order

- BPA to complete Order added—When restraints are documented as discontinued in the Flowsheet, a BPA fires to alert the nurse to complete the restraint order. This ensures that if a patient requires an additional application of restraints a **new order** must be placed to comply with regulatory requirements.

Lessons Learned

- The "Identify and Mitigate" strategy works when there is someone designated to do it.
- Set policy carefully! Regulators hold you to your policy.
- Use EMR flowsheet and POC as checklists for what should be done.
- Make documentation as straightforward as possible.
- Automated metrics are powerful, but complex measures may take so long to develop they do not capture the full impact of interventions.

Challenges

- Policy vs. Practice—Compliance vs. Quality Improvement.
- Multiple pages to charge nurse presents competing priorities. Desensitization to Best Practice Alerts occur.
- Keeping policy aligned with regulatory standards.
- Integrating EMR elements to support intuitive and automated documentation—EPIC can only support 'model' features.

Next Steps

- Establish a sustainable intervention that places identification and mitigation at the point of care. This implies moving the intervention to the units.
- Consistent with the CCHMC aim to reduce restraint usage, an additional metric was identified for measurement:
  - Hours of restraints ordered per 1,000 patient days (under development)
  - This metric will give CCHMC information about the actual level of restraint use over time.

Questions?