



# Improving the Safety of Children Receiving Chemotherapy

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# Background/Introduction

- Chemotherapy is essential in treating children with cancer
  - Narrow therapeutic window
  - Errors in total dose, timing, rate, or route can lead to significant harm
- Pediatric chemotherapy treatment orders at ECU Health remained hand written or typed
  - Increased potential for error in transcribing, order entry, and administration
  - Increased delays in patient treatment
- Implementation of computerized provider order entry (CPOE) for chemotherapy in the pediatric population

**Aim Statement – decrease the number of chemotherapy order related safety events by 50% through implementation of a CPOE, for the pediatric oncology population within three months after implementation**

# Methods

In February 2019 proposal submitted requesting pediatric oncology population be transitioned to CPOE by utilizing EPIC Beacon oncology module

- Setting

- Pediatric inpatient and outpatient setting

- Stakeholders

- IS team, physicians, pharmacy, pediatric nursing leaders, educators, children's hospital administrators and EPIC specialist

- Time course

- April 2022 - May 2023

- Measures

- Safety intelligence events pre and post implementation

Organizational & financial approval for pediatric Beacon



Protocol development, builds, & validation



Education for providers, sub-specialty clinics, & inpatient end users

# Results

## Preplanning: September 2021 – September 2022

- 32 safety events
  - Wrong route, wrong timing, wrong dose, wrong rate, monitoring

## Pre-implementation: October 2022 – May 2023

- 8 safety events
  - Orders included wrong dose, wrong timing, monitoring

## Post-implementation: June 2023 – December 2023

- 1 event
  - Order included wrong dose

# Conclusion



## ○ Key Findings

- Significant decrease in safety intelligent events by 50%
- Standardization of chemotherapy treatment plans for pediatrics decrease risk for ordering errors
- Positive feedback from frontline team members and providers



## ○ Lessons Learned

- Time allotted for builds and validation significantly underestimated
- More in-depth education through replicated workflows (representative of all disciplines present)
- Education of patients/families prior



## ○ Challenges

- Unsigned treatment plans and appointment requests



## ○ Next Steps

- Complete protocol builds
- Monitor compliance of signed treatment plans and active request
- Continue monitoring of SI events

Signed Tx Plan
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