

# No Place Like Home: Reducing Hospital Admissions for Pediatric Oncology Patients



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## Background / Introduction

Previously, febrile pediatric oncology patients with central lines were direct inpatient admissions, sometimes unnecessarily. We collaborated with the emergency department to improve inpatient bed availability and minimize unnecessary hospital admissions. This was accomplished using standardized instructions and processes for the healthcare team to provide appropriate care and maintain our time to antibiotic administration of less than 60 minutes from patient arrival. Patients received a communication card to use as a trigger mechanism upon arrival. This work increased bed capacity and minimized hospital cost while managing crucial bed and staff shortages while allowing patients to be discharged home for optimal healing.

## Objective

“Code Chemo” notifies teammates a febrile oncology patient with a central line is coming to the children's ED with expected arrival time. This expedites care, reduces exposure, and ensures smooth collaboration.

This multilayered communication strategy features visual tools, e.g., patient-held ED instruction card and interdisciplinary flow map built around an EMR pathway. Goals for this project included:

- Maintaining the time from ED arrival to antibiotic administration to < 60 minutes.
- Decreasing the percentage of non-neutropenic patients admitted to the inpatient unit from 100% to 25%.

## Methods

Registration, ED nurses and providers, inpatient nurses and providers, and others were involved in planning and execution of this quality improvement project. It was crucial to ensure all stakeholders understood and appreciated the demands of others. Instructions emphasized the importance of prompt evaluation and antibiotic administration, using standardized processes to maintain antibiotic administration time of < 60 minutes. ED nurses received additional education on pediatric implanted port accessing and obtaining blood cultures. Oncology nurse navigators educated patients and families on the new process of care management in the pediatric ED.

Patient's Name: \_\_\_\_\_  
 DOB: \_\_\_\_\_  
 Diagnosis: \_\_\_\_\_  
 Allergies: \_\_\_\_\_  
 Access Type: \_\_\_\_\_

Directions for EDs outside of Atrium Health:  
 Please see patient STAT, draw blood culture from the central line and give broad spectrum antibiotics immediately. Physician or advanced practice provider may call 704-512-7850 for further assistance.

**I am a patient with cancer or received a bone marrow transplant (BMT), and I have a fever.**

- For a fever of 100.4°F (38.0°C) or higher, call 704-381-9900 and you will be told next steps.
- If required to go to the Emergency Department (ED), present this card to the staff upon arrival so they know the special care you need.

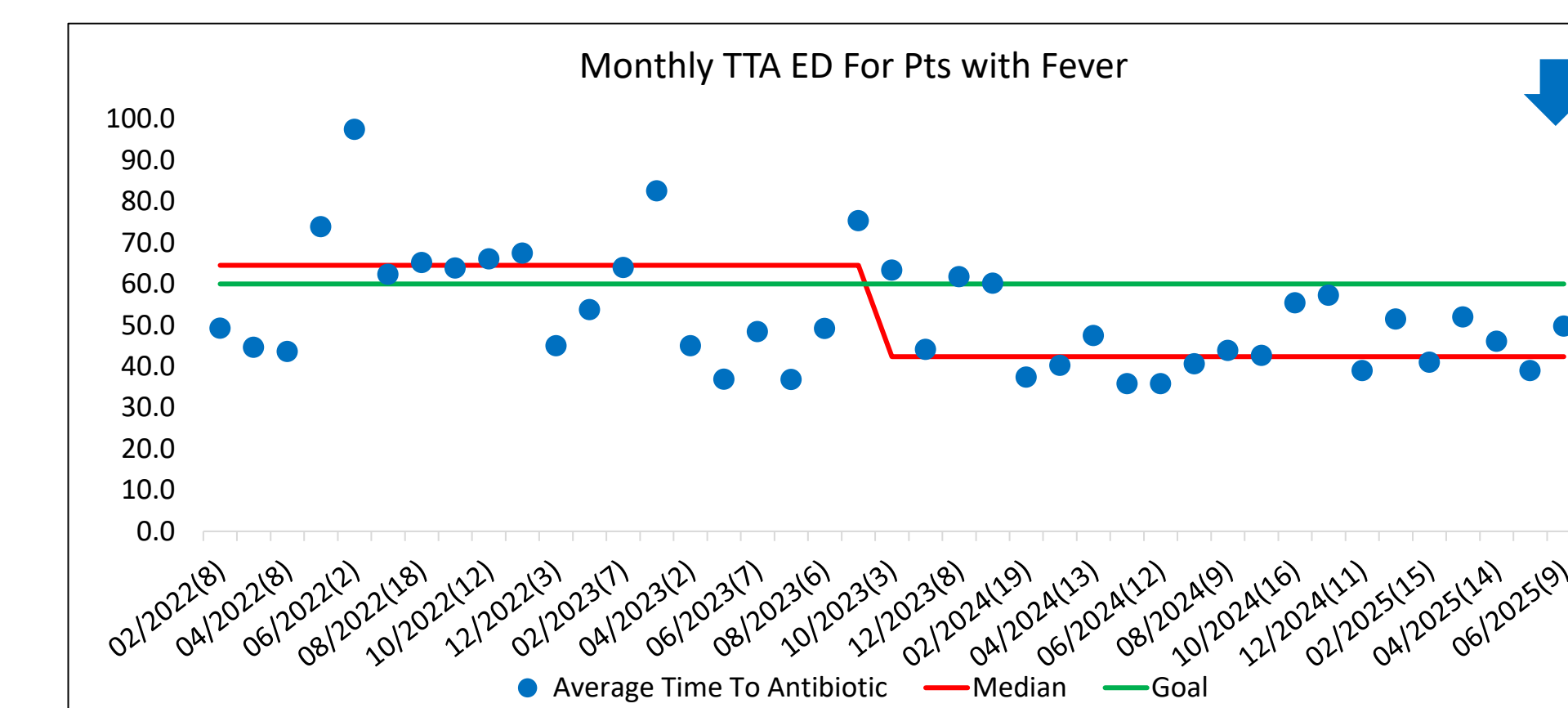
Levine Children's Hospital Emergency Department  
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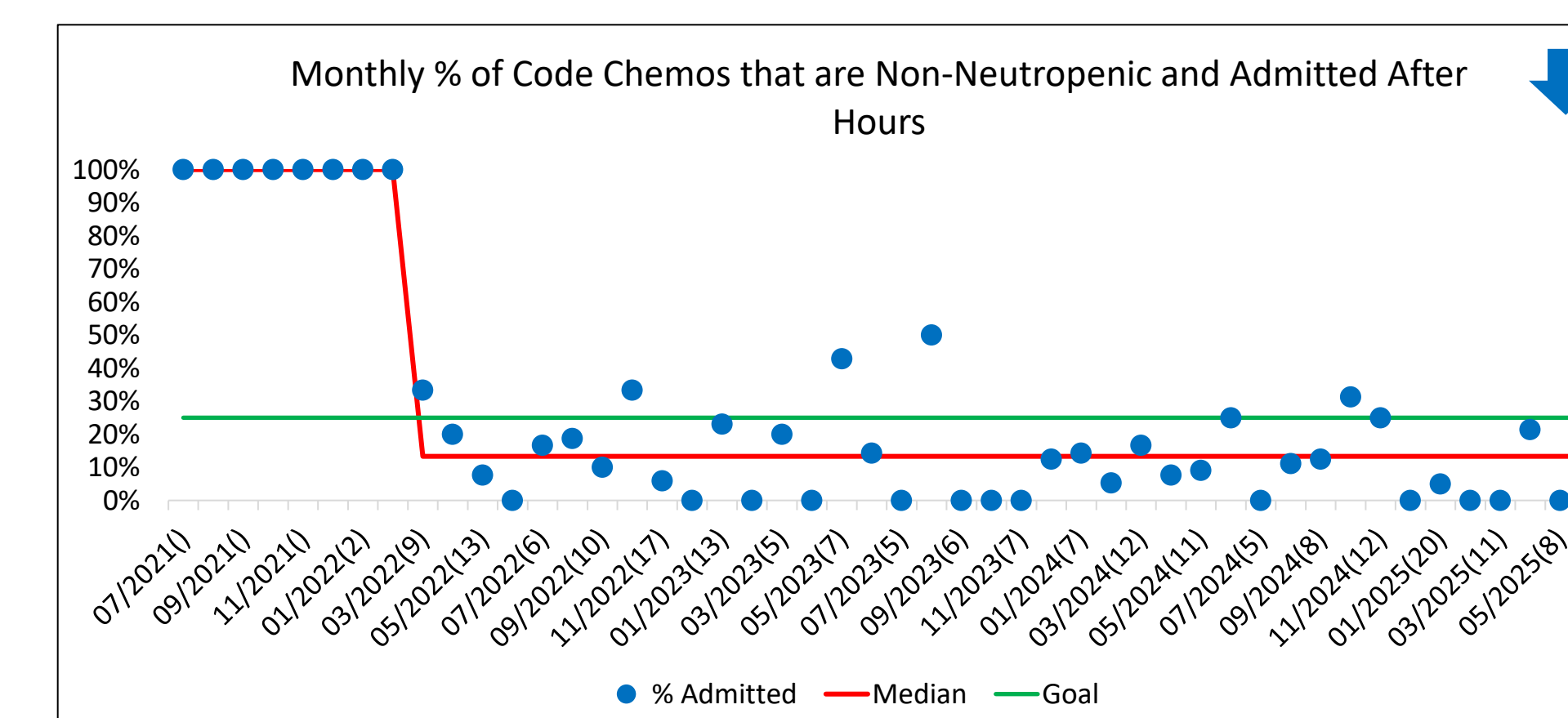
**Figure 1.** Front and back of patient communication card to share with ED upon arrival.

## Results

Since inception of this work in Jan 2022, we have had 192 patients discharged home from the ED improving patient flow and reducing inpatient admissions and costs. Previously, these patients would have been directly admitted, impacting family satisfaction and quality of life. We estimated that this process change has potentially facilitated over \$2.5 million (\$13,400 for an average pediatric non-birth hospitalization) in cost savings, while opening beds for others. We continue to meet our goal of 60 min from patient arrival to antibiotic administration in the ED with a median time of 42 min. Approximately 13% of our non-neutropenic febrile patients are admitted, which is down from 100% at the start of the project.



**Figure 2.** Monthly run chart displaying improvement in the median time to antibiotic of 42 min meeting goal of 60 min.



**Figure 3.** Monthly run chart of percentage of patients with central lines that were non-neutropenic with fever admitted after hours showing improvement from a median of 100% to 15% meeting the goal of 25%.

## Discussion

Discharging these patients directly from the ED has opened more beds for other patients in need, in addition to enabling cost savings to families. Meeting the goal of keeping antibiotics administered within 60 minutes from arrival time – with our median time being 42 minutes – has been a huge satisfier to our patients and families since they do not have to be admitted and can continue to heal at home.

## Implications for Practice

Code Chemo holds enormous potential for spread, serving as a blueprint for other vulnerable populations such as patients with low-risk fever and neutropenic patients and individuals with sickle cell disease. This collaboration between the ED and specialty care provides a model for interdepartmental partnerships in the pursuit of excellence.

## Acknowledgements

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