

## **IMPROVING ANTIBIOTIC STEWARDSHIP IN DISCHARGE ANTIBIOTICS PRESCRIPTIONS FOR HOSPITALIZED CHILDREN WITH URINARY TRACT INFECTION**

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**Category:** Quality, Cost, Value

### **Background**

Improper antibiotic prescribing contributes to increasing antibiotic resistance. Urinary tract infection a common pediatric condition that is frequently treated with broad-spectrum antibiotics even when not indicated. While formal Antimicrobial Stewardship Programs regulate institutional antibiotic usage to reduce misuse, smaller initiatives can also improve prescribing practices.

### **Objectives**

This QI study aims to improve the percentage of Pediatric Hospital Medicine (PHM) patients discharged at Texas Children's Hospital on appropriately narrowed oral antibiotics based on urine culture sensitivities from 60% to 90% between October 2017 and March 2018.

### **Methods**

Data was obtained by chart review. Eligible patients included those discharged from PHM service on oral antibiotics for UTI, with urine culture sensitivities finalized at discharge. To quantify prescribing practices, antibiotics were categorized as: narrow, moderately-narrow, and broad-spectrum. Culture sensitivity pattern was compared to discharge antibiotic and prescribing was considered appropriate if prescribed antibiotic was in the narrowest tier to which the organism was sensitive.

A process map, exploration of baseline data including variation between hospital sites and patient characteristics extracted from chart review, and results from a PHM provider survey were utilized to develop a key drivers diagram. Key drivers included provider lack of knowledge about antibiotic spectrum, and inconsistent guidelines of antibiotic dosing for UTI.

Interventions thus far have focused on provider awareness and education, including:

1. Presenting baseline data to PHM providers to raise awareness
2. Email education to PHM providers addressing antimicrobial spectrum
3. Creating and distributing badge cards with oral antimicrobial spectrum and UTI-specific dosing to PHM providers
4. Educating and distributing badge cards to PHM resident rotators

Data collection is ongoing. Future interventions, if necessary, include individual provider feedback.

Metrics included: Outcome: percentage of appropriately prescribed discharge antibiotics. Process: documentation of discharge prescription in discharge summary. Balance: readmission rate and instances of prescribing antibiotic to which the organism is resistant.

### **Results**

Baseline data from the past 7 months shows overall appropriate narrow antibiotic prescription rates of 60%, 72% at the teaching campus and 55% at community sites. Rates had risen from November 2017-January 2018, but collection is ongoing to determine need for further interventions and sustainability of education initiatives.

### **Discussion**

Antibiotic stewardship is an important component of PHM practice. While providers perceive this as an important goal, provider support and education to improve prescribing.