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IMPROVING CARE FOR PEDIATRIC URINARY TRACT INFECTION: RELATIONSHIP BETWEEN IMPLEMENTATION OF A CLINICAL PATHWAY AND PRESCRIBING PATTERNS IN THE ED

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Background Urinary tract infections (UTIs) are the most common serious bacterial infection in children; nearly 10% of

Figure 1 Percent of UTI Patients Receiving Narrow-Spectrum Antibiotic (cephalexin).

Figure 2 Percent of UTI Patients Receiving Broad-Spectrum Antibiotic (cefixime).

girls and 2% of boys are affected during their first 8 years of life. Broad-spectrum antibiotics are popular first-line treatment agents; however, these medications can lead to resistant organisms and more severe infections over time. In July 2010, our institution implemented a clinical pathway for children presenting to the ED with UTI based on national guidelines and local consensus regarding the need for antimicrobial stewardship. A goal of the pathway was to increase narrow spectrum (cephalexin) and decrease broad spectrum (cefixime) antibiotic use for children with uncomplicated UTI presenting to the ED.

Objectives To determine the impact of a UTI clinical pathway on provider antibiotic prescribing patterns.

Methods We used statistical process control (p-charts) to analyze the percentage of patients receiving each antibiotic over time. Data were analyzed over a 6-year period; 1.5 years before and 4.5 years after pathway implementation.

Results 2292 patients were included. The percentage of patients receiving targeted narrow spectrum antibiotics increased from an average of 19% to 73% (figure 1). There was a concomitant decrease in the percentage of patients receiving broad-spectrum antibiotics (cefixime) from 46% to 3% (figure 2). Special cause variation was noted twice during the study period; immediately following pathway implementation and again 6 months later when the pathway was revised to increase provider education regarding appropriate antibiotic use.

Conclusions Implementation of clinical pathways for UTI can result in sustained improvements in antimicrobial stewardship among children seen in ED settings.