

Children's Mercy Kansas City

SHARE @ Children's Mercy

Research Days

May 4th, 12:00 PM - 12:15 PM

Improving Antibiotic Durations for Skin and Soft Tissue Infections in Pediatric Urgent Care Clinics

Megan Hamner

Follow this and additional works at: <https://scholarlyexchange.childrensmercy.org/researchdays>



Part of the [Infectious Disease Commons](#), and the [Pediatrics Commons](#)

Improving Antibiotic Durations for Skin and Soft Tissue Infections in Pediatric Urgent Care Clinics

Submitting/Presenting Author (must be a trainee): Megan Hamner, MD

Primary Email Address: mjhamner@cmh.edu

Medical Student

Resident/Psychology Intern

Fellow

Primary Mentor (one name only): Rana El Feghaly, MD, MSCI

Other authors/contributors involved in project: Amanda Nedved, MD; Holly Austin, MD; Donna Wyly RN, MSN, CPNP-AC; Alaina Burns, PharmD, BCPPS; Brian Lee, PhD, MPH

IRB Number (if applicable): STUDY00001354

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

Trainee is an integral member of the project and was closely involved with the development of project design, development of QI tools including the creation of a driver diagram and PICK chart, implementation of PDSA cycles, review and analysis of the data as well as the creation of run charts and control charts.

Problem Statement/Question, Background/Project Intent (Aim Statement), Methods (include PDSA cycles), Results, Conclusions limited to 500 words

Problem Statement/Question: Although national guidelines recommend 5-7 days of oral antibiotics for most skin and soft tissue infections (SSTIs), in 2019, CMH urgent care clinics (UCCs) prescribed >7-day courses for 42% of patients diagnosed with SSTIs. Prolonged antibiotic courses result in increased patient burden, cost and adverse events which could be prevented by prescribing shorter courses.

Background/Project Intent (Aim Statement): To increase the percentage of patients receiving 5-7 days of oral antibiotics for SSTIs from 58% to 75% by December 31st, 2021, in CMH UCCs.

Methods (include PDSA cycles): We formed a multidisciplinary team in April 2020. We completed cause-and-effect analyses and developed a driver diagram (Figure 1). Plan-Do-Study-Act (PDSA) cycle 1 provided an update on current guidelines for UCC providers. PDSA cycle 2 modified the electronic health record to display antimicrobial order sentences from shortest to longest duration. PDSA cycle 3 provided project outcome and balancing measure updates to UCC providers at regular intervals. We created a monthly report of patients 90 days and older seen in UCCs with a final

diagnosis of SSTIs including impetigo, abscesses, cellulitis, erysipelas, folliculitis, paronychia, and animal bites. Our outcome measure is the percentage of patients receiving 5-7 days of oral antibiotics for SSTIs. Process measure is the percentage of prescriptions selected from a folder. Balancing measure is the number of patients returning for SSTI within 14 days of their visit. Results are displayed using an annotated control chart.

Results: The percentage of patients receiving 5-7 days of oral antibiotics during the baseline period (June 2019-June 2020) was 58%. After group formation in April 2020, this increased to 68%, and consistently increased following PDSA cycles to a sustainable rate of >80% (Figure 2). A total of 1,971 UCC visits were included in the analysis. Process measure revealed less than 10% of providers utilize pre-created prescription folders. There was no change in balancing measure numbers.

Conclusions: Prior to our project, only 58% of children seen in CMH UCCs for SSTIs received the recommended antibiotic duration. By addressing primary drivers uncovered through QI methodology, we surpassed our goal of 75%. Additional PDSA cycles are planned along with expansion to other departments. This work will allow us to expand antibiotic stewardship efforts to other infectious diagnoses as well.