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Published In/Presented At

Frey, S. & Held Wheatley, K. (2021). *Medication use evaluation of ceftriaxone dosing in pediatric patients*.
Posted presented at Lehigh Valley Health Network, Allentown, PA.

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Medication Use Evaluation of Ceftriaxone Dosing in Pediatric Patients

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Background

- Inconsistent antimicrobial dosing can lead to suboptimal or supratherapeutic drug levels contributing to antimicrobial resistance, increased hospital costs, and adverse effects
- Despite incorporation of ceftriaxone dosing within order sets, variability in dosing persists
- The goal of this quality improvement project was to characterize ceftriaxone dosing based on indication within the pediatric units at Lehigh Valley Reilly Children’s Hospital

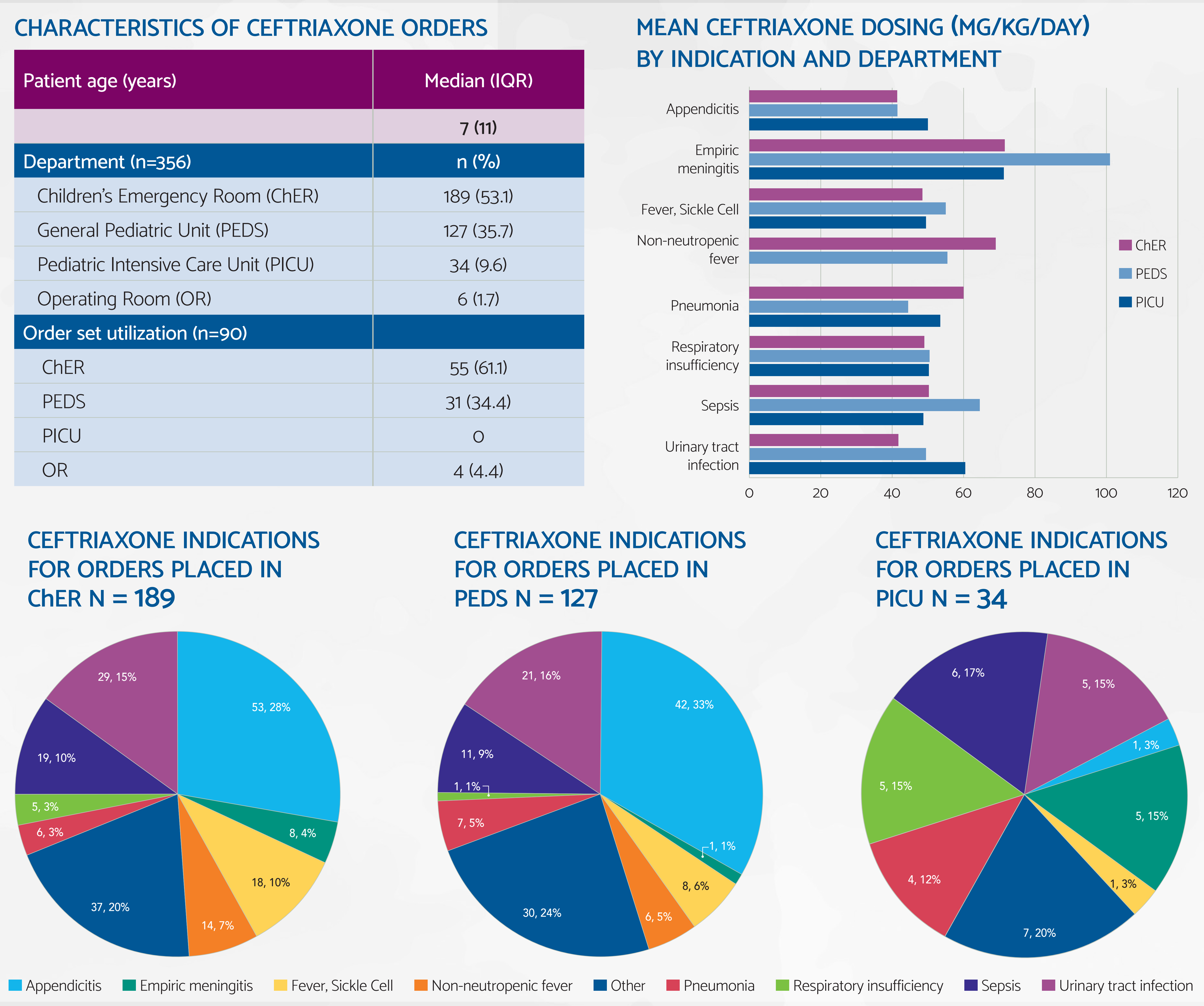
Methods

- Retrospective review of intravenous ceftriaxone medication orders for pediatric patients was performed between January 1, 2021 and June 30, 2021
- Evaluations performed:
 - Characterize ceftriaxone dosing based on indication
 - Examine the data for any trends in ceftriaxone dosing associated with specific pediatric units and indications
 - Analyze order set utilization

REFERENCE

Ferguson RA, Herigon JC, Lee BR, et al. Variability in ceftriaxone dosing across 32 US acute care children’s hospitals. *J Pediatric Infect Dis Soc.* 2021;10(5):677-681.

Results



Conclusions

- Empiric use of ceftriaxone in the management of pneumonia and urinary tract infection did not follow current clinical pathway recommendations
- Non-standard doses of ceftriaxone accounted for 14% of total doses administered
 - Flat doses or doses equal to 75 mg/kg were most commonly prescribed
- Prescribed more commonly in the ChER (58%) and for the following indications: appendicitis (n=8), empiric meningitis (n=4), skin and soft tissue infection (n=5), fever in patients with sickle cell disease (n=3), pneumonia (n=1), respiratory insufficiency (n=1), sepsis (n=7), and urinary tract infection (n=11)
- Only 2 (2.2%) ceftriaxone doses prescribed using an order set were non-standard, indicating that increased order set utilization facilitates consistent ceftriaxone dosing
- Future application of this data may include educating providers on availability of clinical pathways and related order sets and monitoring utilization

DISCLOSURE STATEMENTS

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Sara Frey: nothing to disclose

Kristin Held Wheatley:

- Accord Healthcare, Inc. – Consultant
- Servier Pharmaceuticals – Consultant