

Background

- Timely anthropometric measurements in pediatric patients, notably height and weight, are essential for safe and effective medication prescribing.
- Weight is necessary as most medications for pediatric patients are weight based. Height is used to estimate glomerular filtration rate (eGFR) with the Bedside Schwartz Formula for children 1-18 years to determine the need for medication dose adjustment based on renal function.
- At our institution obtaining these measurements, particularly height, is often deprioritized.

Objective

- Assess the timely attainment of patient height in pediatric patients at our institution.

Methods

- Retrospective chart review quality improvement project, which met exemption criteria for Institutional Review Board review, identified pediatric patients who were admitted to Upstate Golisano Children's Hospital from July 1st to 31st, 2021.
- Primary end point: Determine the proportion of patients whom a height was recorded within 24 hours of admission.
- Secondary end points: Determine how many patients without a height recorded within 24 hours of admission were given medications that may require renal dose adjustment or have the potential to cause nephrotoxicity.
- Data were analyzed using descriptive statistics utilizing Excel® and Research Electronic Data Capture (REDCap®) software.

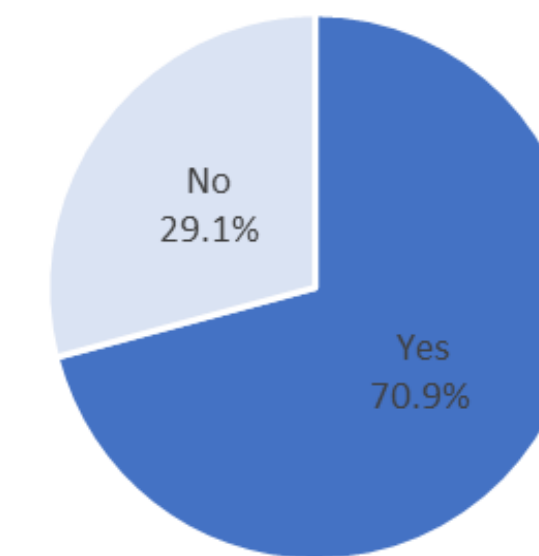
Results

Table 1: Patient Demographics

	All Patients (n=399)	Patients with No Height (n=116)
Age (mean ± SD)	8.27 ± 6.3	8.88 ± 6.13
Origination (n, %)	Peds ED: 285, 71.4% Adult ED: 7, 1.8% Peds Transport Team: 8, 2.0% Direct admit from OSH: 42, 10.5% Direct admit from clinic: 38, 9.5% Other: 19, 4.8%	Peds ED: 93, 80.2% Adult ED: 1, 0.9% Peds Transport Team: 2, 1.7% Direct admit from OSH: 10, 8.6% Direct admit from clinic: 7, 6.0% Other: 3, 2.6%
Admitting Unit (n, %)	Pediatric Surgery: 122, 30.6% Pediatric Heme/Onc: 37, 9.3% General Pediatrics: 158, 39.6% PICU: 67, 16.8% Other: 15, 3.8%	Pediatric Surgery: 21, 18.1% Pediatric Heme/Onc: 18, 15.5% General Pediatrics: 44, 37.9% PICU: 22, 19.0% Other: 11, 9.5%
Critically Ill (n, %)	61, 15.3%	19, 16.4%
Weight Updated within 24 hours of Admission (n, %)	391, 98%	109, 94.0%
SCr Obtained within 24 hours of Admission (n, %)	305, 76.4%	91, 78.4%

Primary Endpoint

Figure 1: Height Updated within 24 hours of Admission (n=399)



Secondary Endpoints

Figure 2a: Patients with No Height Given Medications that may Require Renal Dose Adjustment (n=116)

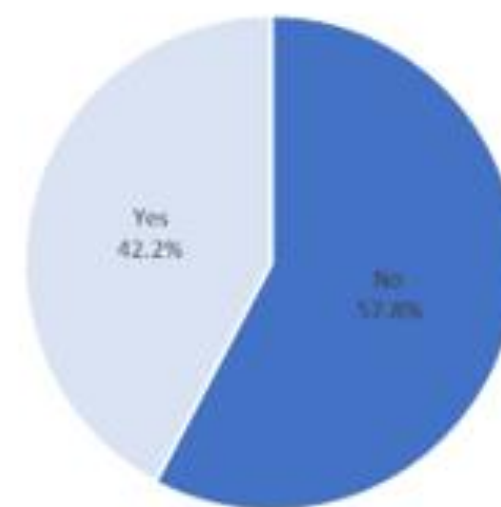


Figure 3a: Patients with No Height Given Nephrotoxic Medications (n=116)

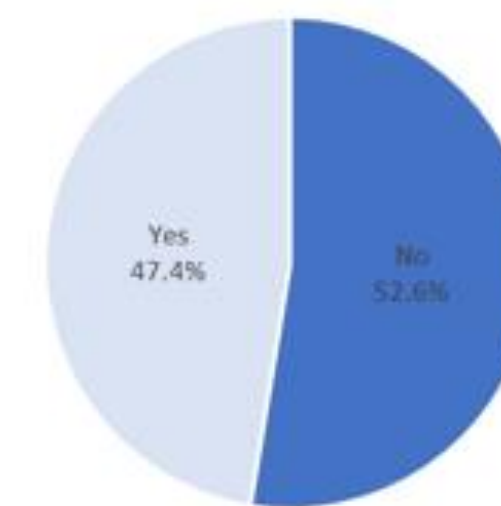


Figure 2b: Medications that may Require Renal Dose Adjustment Given to Patients with No Height (n=116)

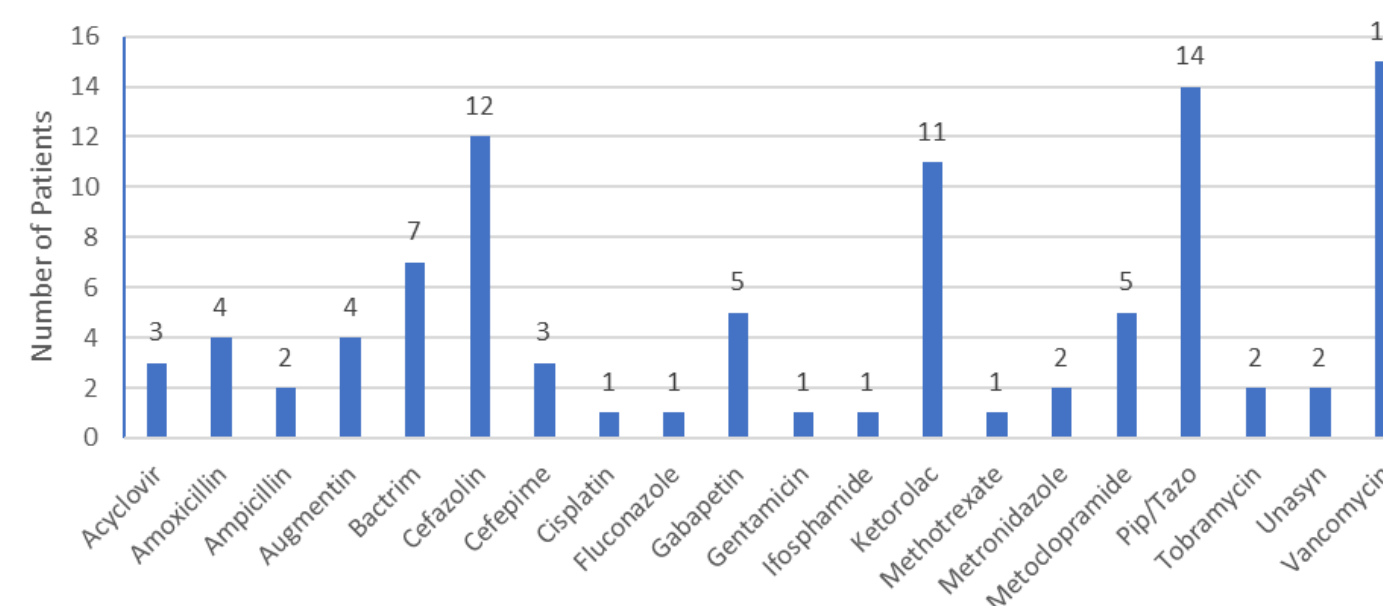
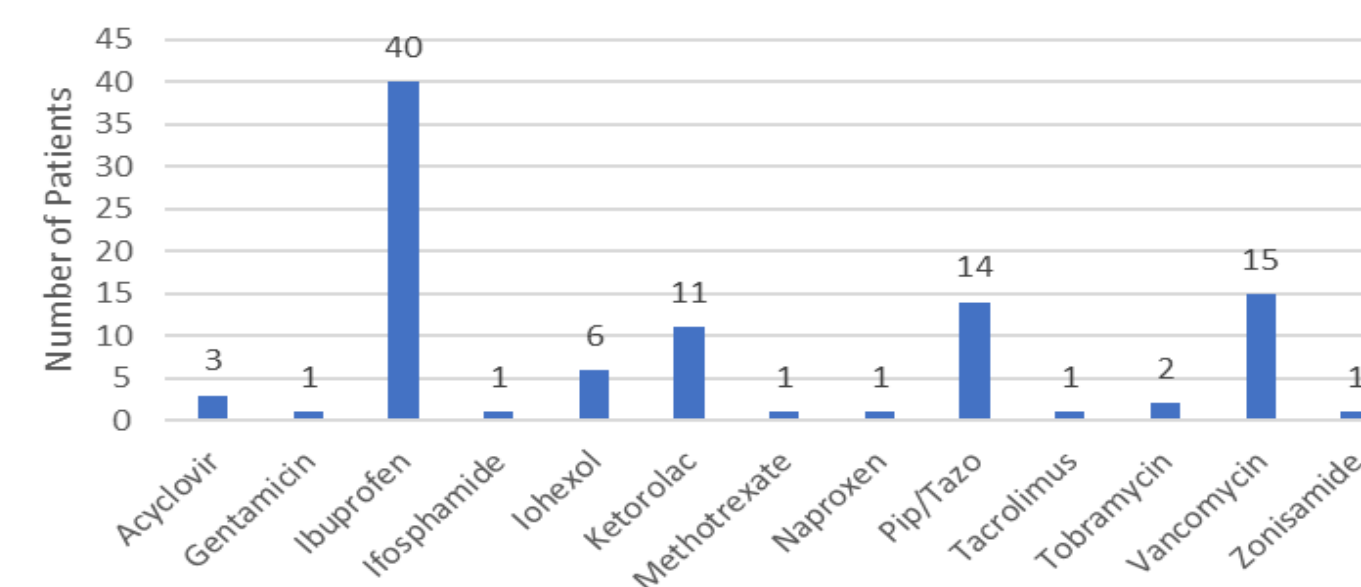


Figure 3b: Nephrotoxic Medications Given to Patients with No Height (n=116)



Discussion

- Within 24 hours of admission, patient weight was obtained in 98% of patients while patient height was only obtained in 71% of patients.
- Both nephrotoxic medications and medications requiring renal dose adjustment were administered to pediatric patients despite not having height measurements to calculate renal function using the Bedside Schwartz Formula.
- This quality improvement project reinforces the importance of obtaining patient height to calculate renal function and ensure medications are dosed appropriately and that nephrotoxic medications can be avoided if necessary.

Conclusion

- Over one month, approximately 30% of pediatric patients admitted to our institution did not have a height recorded within 24 hours of admission with many of those patients' receiving medications with the potential to require renal dose adjustment or to cause nephrotoxic injury

Future Directions

- Our results suggest significant room for improvement exists for obtaining patient height to ensure safe and effective medication prescribing in a children's hospital.

Disclosures

- The authors have nothing to disclose.