TITLE: Better Pairing Propofol Volume with Procedural Needs: A Propofol Waste Reduction Quality Improvement Project

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Background and Objectives: Pediatric sedation clinics meet the growing demand for sedation services at the community level. Propofol facilitates deep sedation without requiring intubation and is often used as an infusion to maintain consistent sedation. Variability in drug ordering strategies resulted in significant infusion volumes wasted at conclusion of procedures in our clinic. With drug shortages now common, we designed a quality improvement initiative to reduce our propofol infusion waste footprint.

Methods: Data collection during the pre-intervention phase reflected current practice trends. Propofol dosing tables stratified by patient weight ($\geq$ 50 kg or < 50 kg) were designed to estimate the volume of propofol infusion required to support sedations spanning 15 to 180 minutes. Nurses prepared propofol infusion volumes as suggested by these tables. The primary outcome measure was the percent reduction in propofol waste when the infusion was prepared using a standardized ordering strategy as compared to usual practice.

Results: One hundred fifty-five patients received a propofol infusion to maintain deep sedation. Pre-intervention phase (June-August 2016) included 77 patients, and intervention phase (February-April 2017) included 78 patients. During the pre-intervention phase, the average volume of propofol infusion wasted per procedure was 20.8 milliliters (ml) or 208 milligrams (mg). During the post-intervention phase, the average volume of propofol infusion wasted per procedure was 6.2 ml or 62 mg, representing a 70 percent reduction in waste volume.

Conclusions: By using an internally derived systematic approach to ordering and preparing propofol infusion volume, we reduced provider variability in drug ordering strategies.