

OBJECTIVE Describe the efficacy, protocol alignment, and cost savings following the implementation of rounding rabies immune globulin doses to the nearest vial sizes dispensed in a pediatric emergency department.

METHODS This retrospective, single-center observational study evaluated patients who received human rabies immune globulin (HRIG) in the emergency department (ED) at St. Louis Children's Hospital (SLCH). The study included patients treated between August 2023 and August 2025. Patients were included if HRIG administration was documented in the electronic medical record (EMR) during an ED encounter within the study timeframe. The primary outcome evaluated whether appropriate vial sizes were dispensed according to the institutional HRIG dose-rounding protocol and quantified medication waste. Secondary outcomes included days from exposure to HRIG administration, type of exposure, rabies vaccine series completion, dispensing compliance, median HRIG dose administered, and the rate of confirmed rabies cases.

RESULTS A total of 217 patients were included: 106 in the pre-implementation group and 111 in the post-implementation group. Baseline characteristics were not compared between the two groups. A total of \$40,013.40 worth of HRIG was wasted in the pre-implementation group, while only \$26,947.80 was wasted in the post-implementation group. An estimated 83.8% of patients still received a dose within 10% of the standard 20 units/kg dose of HRIG. There were no confirmed rabies cases reported during the study period.

CONCLUSION Implementation of an HRIG dose-rounding protocol reduced medication waste and costs while maintaining dose accuracy and clinical outcomes in both adult and pediatric populations. Although there was variability in dispensing compliance, most patients remained near the target dose, supporting dose rounding as a safe and effective strategy to optimize resources while reducing costs.

ABBREVIATIONS ABW, actual body weight; ED, emergency department; EMR, electronic medical record; HRIG, Human Rabies Immune Globulin; SLCH, St. Louis Children's Hospital

KEYWORDS Human Rabies Immune Globulin; protocol; rabies; vaccination; waste