

# Documentation Of Weight In Pediatric 9-1-1 Responses With Administration Of Weight-based Medications

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## BACKGROUND

Determining a child's weight is a critical first step in administering the appropriate dose of a medication in an emergency.<sup>1</sup>

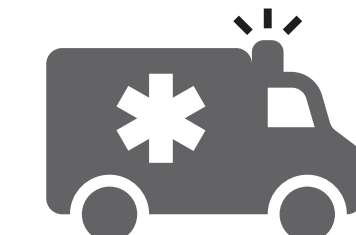
The **National EMS Quality Alliance (NEMSQA)**<sup>2</sup> patient safety process measure, "**Pediatrics-03b**," calls for the documentation of weight in kilograms or length-based weight estimate for pediatric patients who receive weight-based medications in the settings of 9-1-1 requests.



The goal of this study was to **describe documentation of weight in pediatric 9-1-1 responses** and factors associated with compliance for this quality measure.

## METHODS

### Inclusion Criteria



**ImageTrend  
Collaborate 2024  
National Dataset**



**Pediatric  
(<18 years old)  
9-1-1 Responses**



**Medication  
Administered  
by EMS\***

*\*patients who only received medication via inhaled or topical routes were excluded, based on the NEMSQA definition*

Differences in **weight documentation** (NEMSIS eExam01 or eExam02) assessed by:

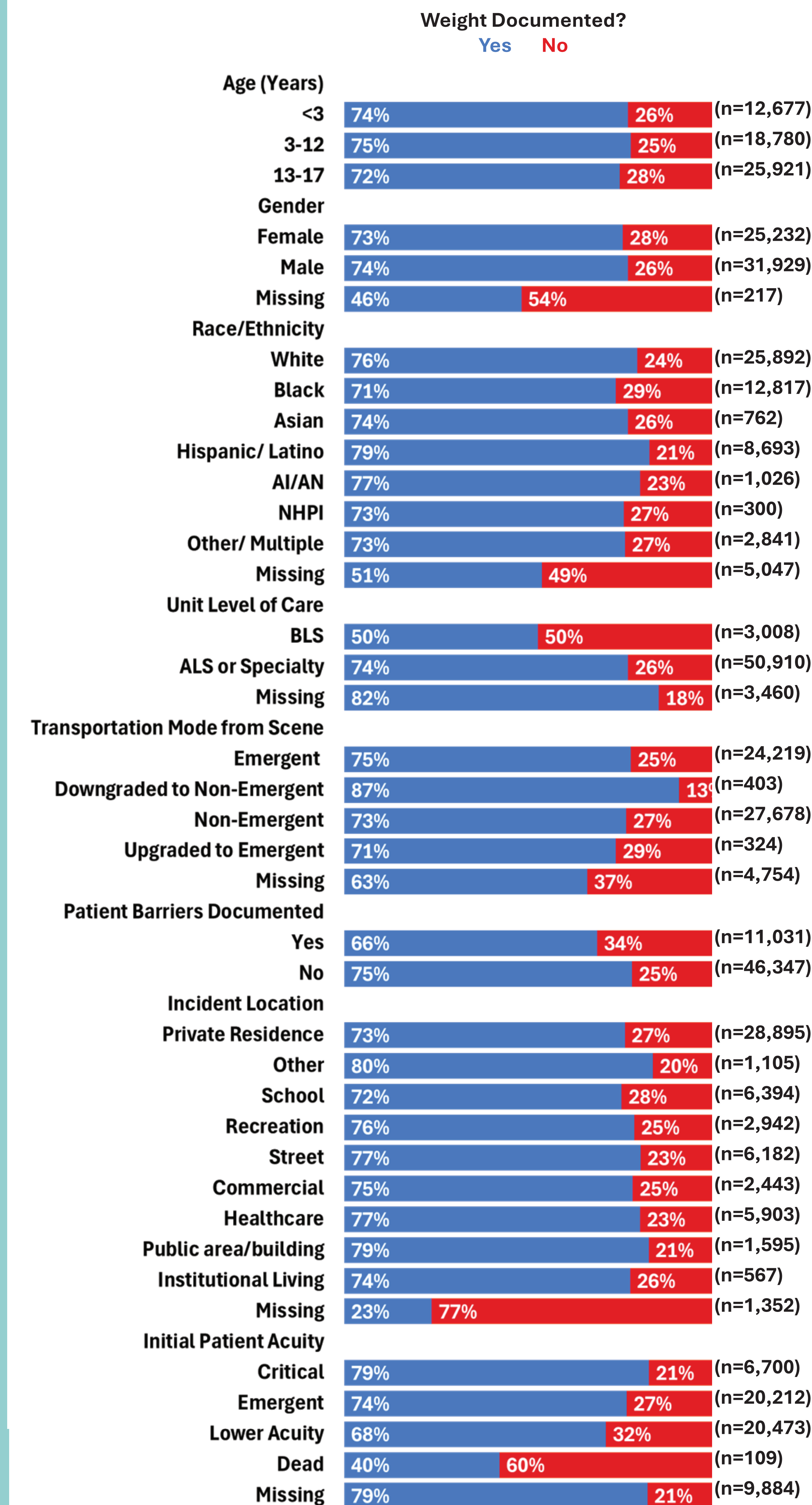
- Patient demographics, scene characteristics, medication types, and administration routes

**Statistical analyses:**

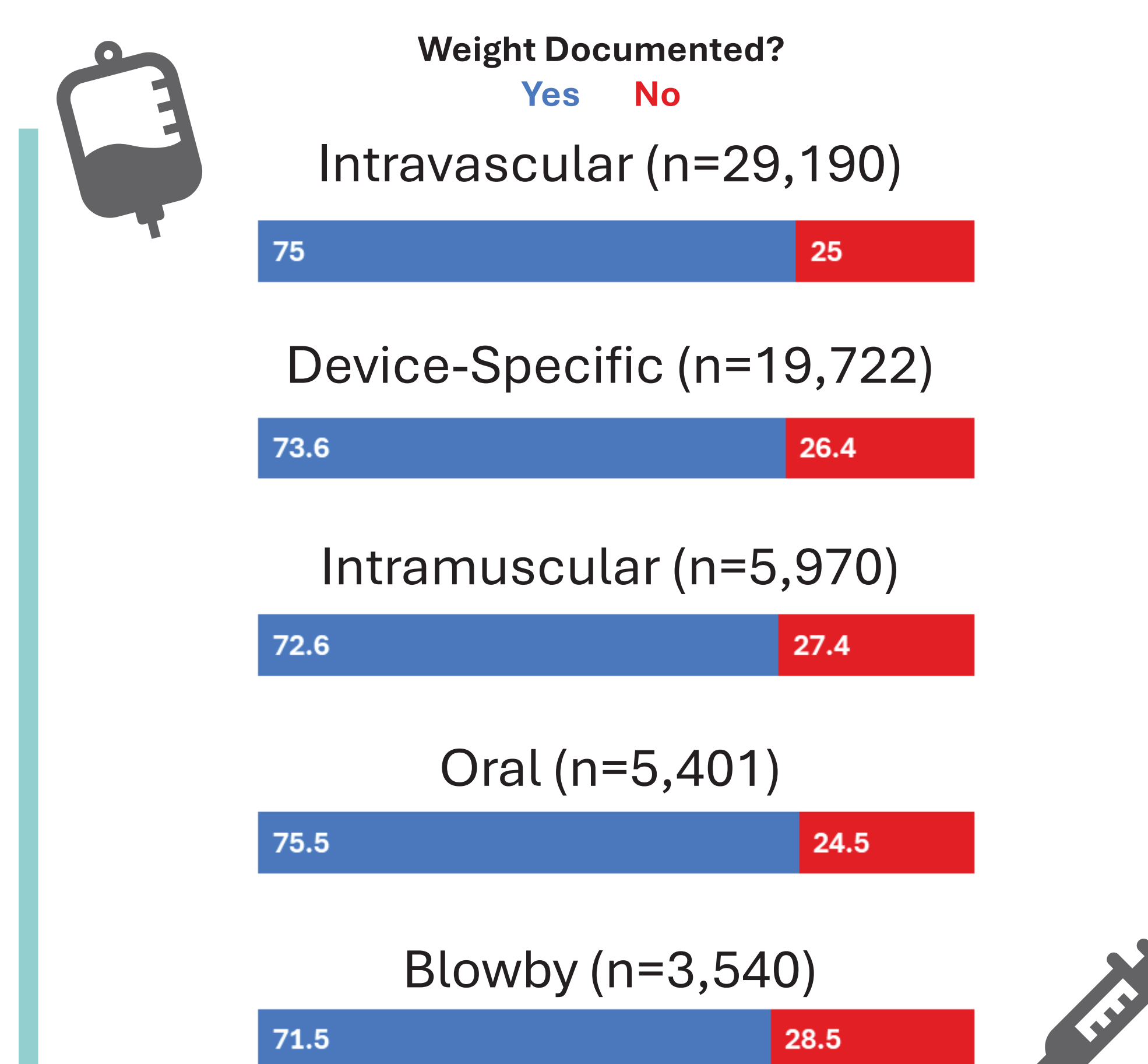
- Chi-square tests
- Logistic regression models (unadjusted and multivariable adjusted for state-level clustering)

## RESULTS

### Factors Associated With the Documentation of Weight in Pediatric 9-1-1 Responses

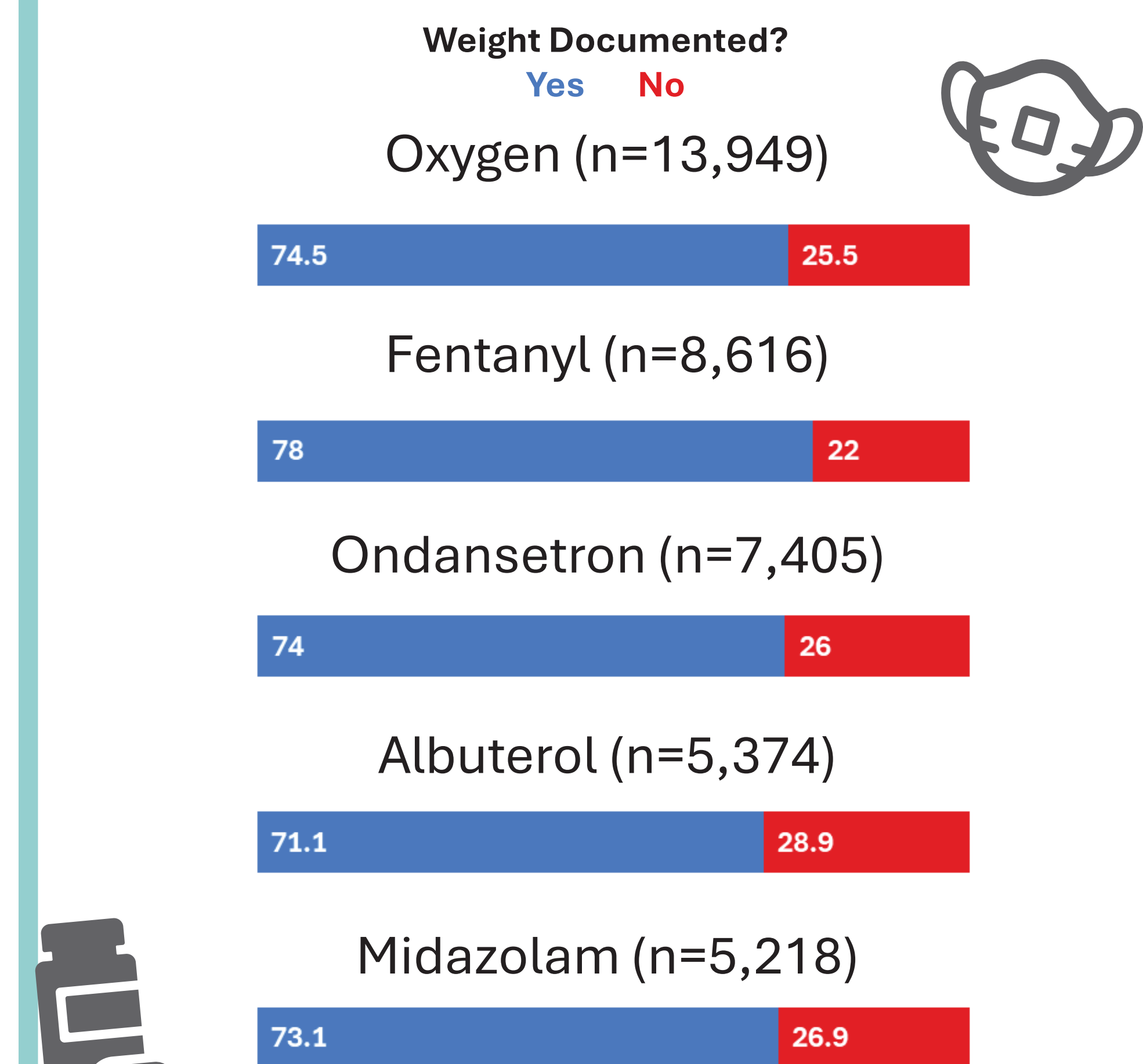


### Top 5 Administration Routes\*



\*At least 1 dose administered by route

### Top 5 Medications Administered\*



\*At least 1 dose of medication administered

Of 57,378 pediatric 9-1-1 responses with medication administered, **73%** had weight documented

Patients were **more likely** to have weight documented if they were:

✍ **Male** compared to **female**  
(OR: 1.07, 95% CI: 1.03-1.11/ aOR: 1.06, 95% CI: 1.03-1.10)

✍ Managed by an **ALS or Specialty Care Unit** compared to **BLS**  
(OR: 2.79, 95% CI: 2.56-3.00/ aOR: 1.89, 95% CI: 1.75-2.04)

Patients were **less likely** to have weight documented if they were:

✍ **Adolescent** (13-17) compared to **<3 years old**  
(OR: 0.89, 95% CI: 0.85-0.93/ aOR: 0.84, 95% CI: 0.80-0.89)

✍ **Non-Hispanic Black** compared to **non-Hispanic white**  
(OR: 0.75, 95% CI 0.71-0.78/ aOR: 0.76, 95% CI: 0.72-0.79)

✍ **Lower initial acuity** compared to **emergent**  
(OR: 0.56, 95% CI: 0.52-0.60/ aOR: 0.60, 95% CI: 0.56-0.65)

OR: odds ratio  
aOR: adjusted odds ratio  
95% CI: 95% confidence interval

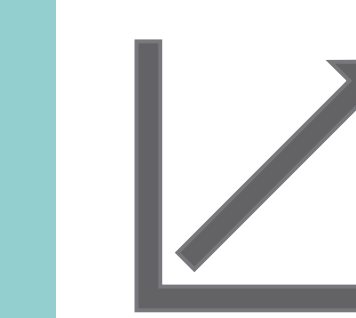
## CONCLUSION



Weight was documented in **3/4** of pediatric 9-1-1 responses that met the Pediatrics-03b case definition



Establishing a **benchmark** and understanding barriers to optimal implementation are critical to improving the care and documentation of pediatric patients by EMS clinicians



Future studies should be focused on assessing the case definition for the measure to determine how to best **evaluate and improve care**

## REFERENCES

- Cicero, M. X., Adelgaiss, K., Hoyle, J. D., Lyng, J. W., Harris, M., Moore, B., Gausche-Hill, M.; Pediatric Committee of NAEMSP adopted by NAEMSP Board of Directors. (2021). Medication Dosing Safety for Pediatric Patients: Recognizing Gaps, Safety Threats, and Best Practices in the Emergency Medical Services Setting. A Position Statement and Resource Document from NAEMSP. Prehospital Emergency Care, 25(2), 294–306. <https://doi.org/10.1080/10903127.2020.1794085>
- National EMS Quality Alliance. (2021). NEMSQA Measures. Accessed June 4, 2025. <https://www.nemsqa.org/measures>

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