

BACKGROUND¹⁻³

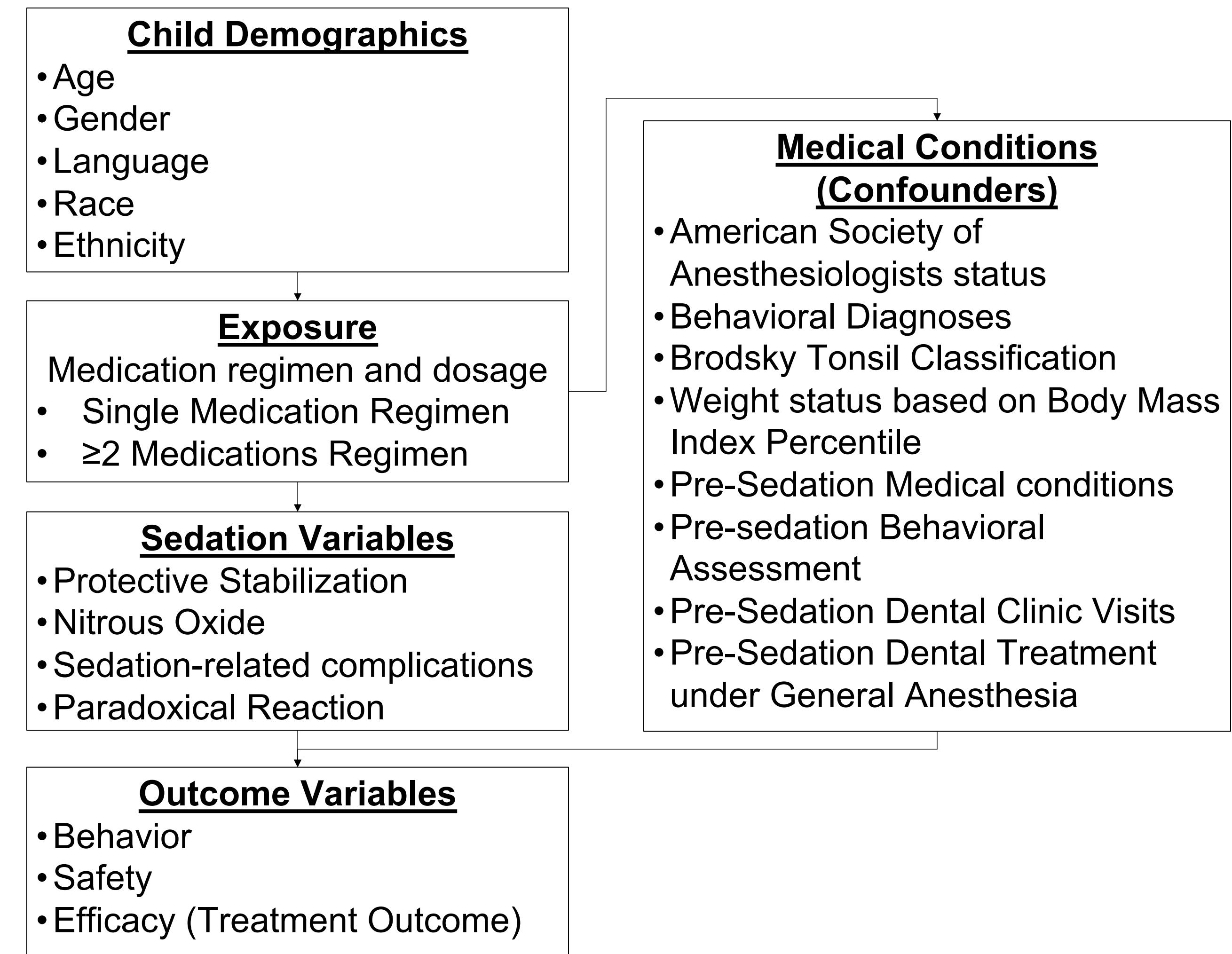
Moderate Sedation:

- Advanced behavior management technique to minimize patient fear and prioritize patient safety
- Several medication combinations/routes of administration
- Risk of adverse events
- Need for more information on medications, safety, and efficacy

METHODS

- Cross-sectional Retrospective Cohort Study
- Dental patients (24-60 months) from 2015-20 at Nationwide Children's Hospital, Columbus, OH with dental procedure(s) and first moderate oral sedation (CPT D9248)
- Descriptive statistics and bivariate analyses compared medication regimens

Figure 1: Concept map for statistical analysis modeling each of four sedation outcomes: overall success, behavior success, safety success, and treatment outcome success.

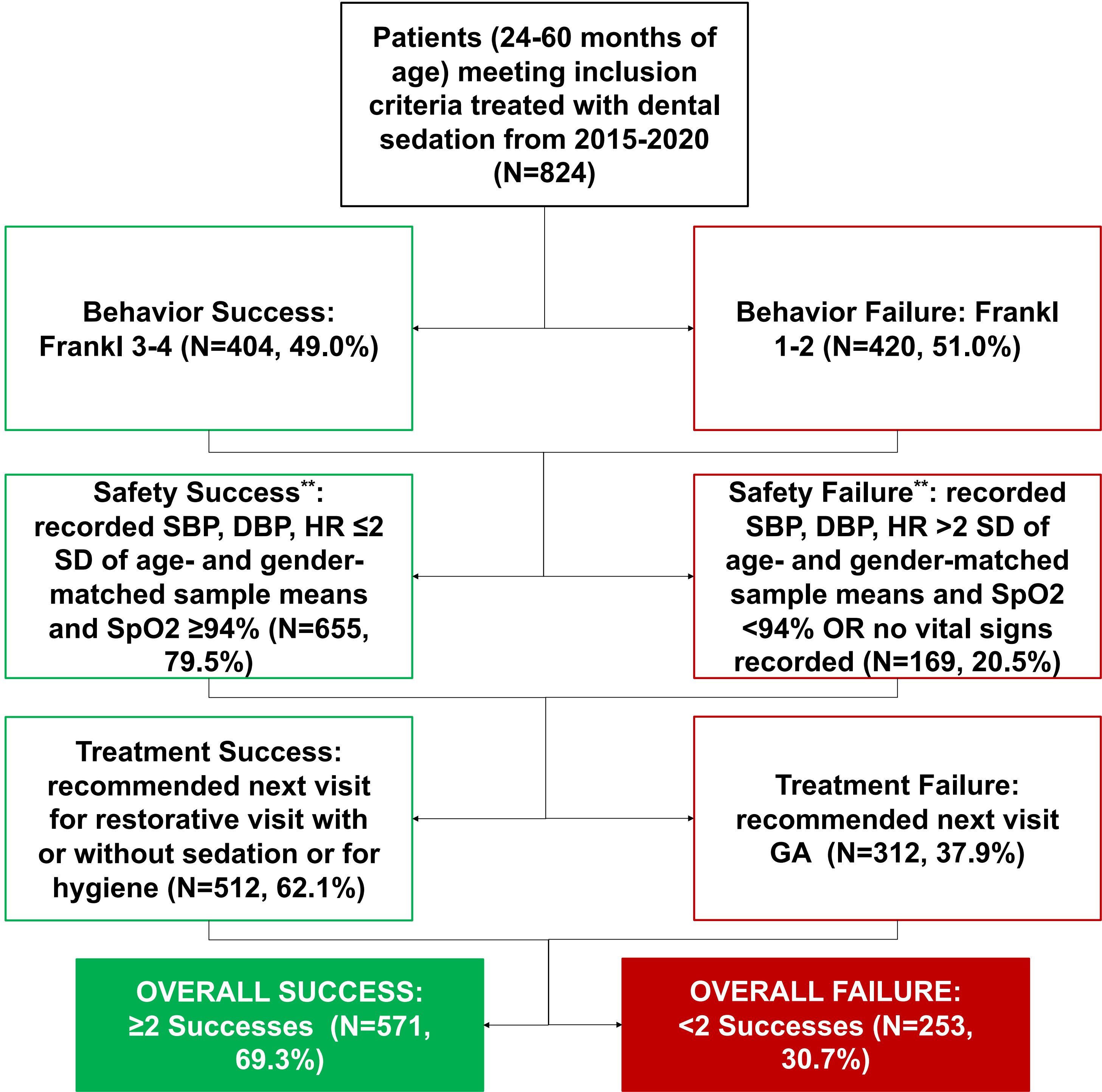


PURPOSE

To evaluate pediatric dental sedation success using patient-centered outcomes for behavior, safety, and treatment.

RESULTS⁴

Figure 2. Behavior, Safety, Treatment Outcome, and Overall Sedation Success*.



*Abbreviations used in this figure: SBP=systolic blood pressure; DBP=diastolic blood pressure; HR=heart rate; SpO2=oxygen saturation

**Subjects without vital signs were not included in mean/standard deviation calculations

RESULTS

Table 1: Overall, Behavior, Safety, and Efficacy for 1 versus ≥2 Medications and Intranasal versus Oral Midazolam.

	Overall Success N (%)	Behavior Success N (%)	Safety Success N (%)	Treatment Success N (%)
Number of sedation medications (N=824)	<i>P</i> = 0.17	<i>P</i> = 0.52	<i>P</i> = 0.07	<i>P</i> = 0.63
1	503 (68.5)	357 (48.6)	577 (78.6)	454 (61.9)
≥2	68 (75.6)	47 (52.2)	78 (86.7)	58 (64.4)
Midazolam Only (N=723)	<i>P</i> = 0.05	<i>P</i> = <0.001	<i>P</i> = 0.005	<i>P</i> = 0.23
Intranasal	361 (66.5)	242 (44.6)	413 (76.1)	343 (63.2)
Oral	140 (74.1)	113 (59.8)	162 (85.7)	110 (58.2)

DISCUSSION & CONCLUSIONS

1. In this patient-centered, rather than clinician-driven approach to outcome measurement, ~70% of sedations were successful; all regimens exceeded 75% safety success confirming literature-reported efficacy of moderate sedation in pediatric dental treatment^{2,5-11}.
2. Combination regimens were not associated with increased success or impaired safety, which encourages use of the minimal number of drugs to avoid adverse events¹².
3. Intranasal midazolam was less effective for behavior and safety success than oral, possibly attributable to nasal irritation¹³.
4. Older age, male gender, healthy weight, fewer previous dental clinic visits at NCH predicted success.

ADDITIONAL TABLES
& REFERENCES

