

# PARTICIPANTS ACHIEVING HbA1c <8% IN YOUTH STUDY REPORT GREATER TREATMENT SATISFACTION WITH INHALED INSULIN VS RAPID-ACTING ANALOGS

## OBJECTIVE

To evaluate treatment satisfaction in youth with type 1 or type 2 diabetes achieving HbA1c <8% between inhaled insulin and rapid-acting insulin analogs (RAAs)

## CONCLUSIONS

- In youth with Week 26 HbA1c <8%, inhaled insulin was associated with statistically greater improvements vs RAA in both Teen and Parent-reported treatment satisfaction assessments.
- These findings suggest inhaled insulin may offer quality-of-life benefits beyond glycemic targets compared to RAA.



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## INTRODUCTION

Patient-reported outcomes (PROs) complement glycemic endpoints by characterizing treatment burden, lifestyle flexibility, perceived hypo/hyperglycemia, and overall treatment satisfaction. Integrating PROs with glycemic targets contextualizes patient experience and treatment burden.

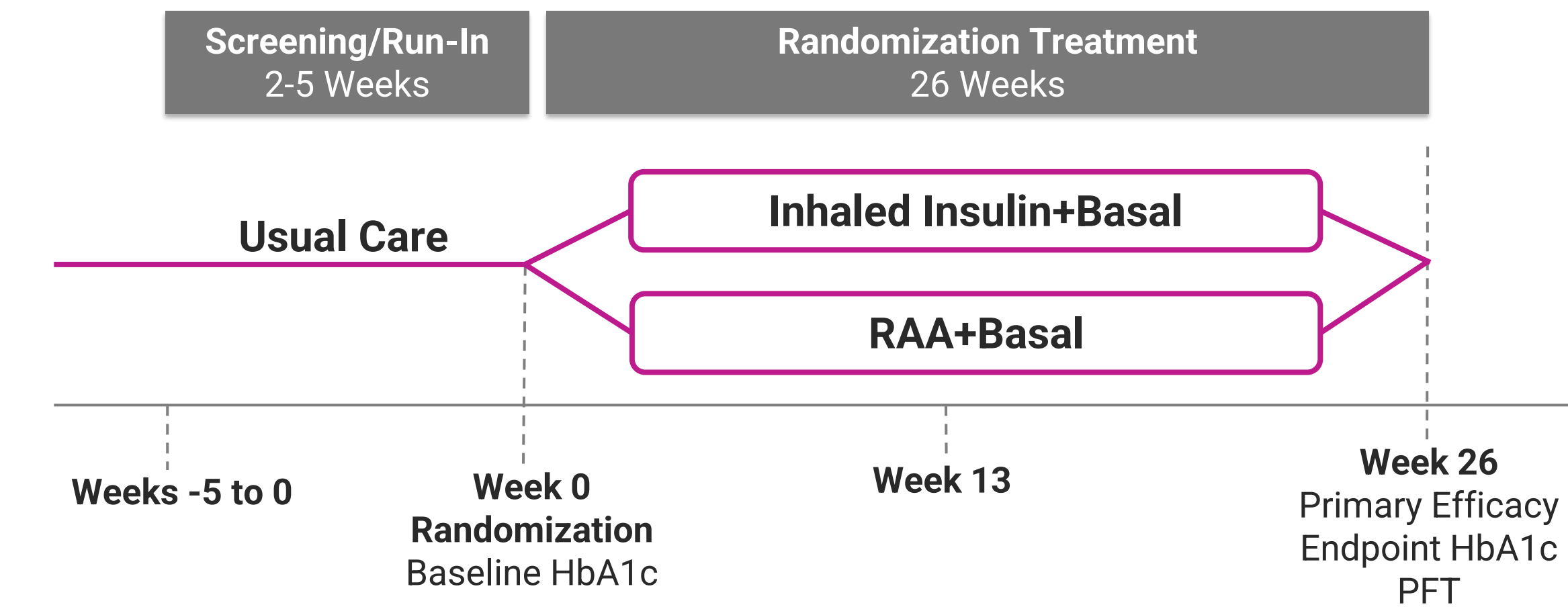
Inhaled insulin (Technosphere® insulin, TI) is a dry powder consisting of microscopic carrier particles onto which recombinant human insulin is adsorbed.

This analysis evaluates between group treatment satisfaction among participants who achieved Week 26 HbA1c <8%, comparing inhaled insulin vs RAA delivered by multiple daily injections (MDI) from the INHALE-1 study.

## METHODS

INHALE-1 was a Phase 3, open-label, randomized study evaluating the efficacy and safety of inhaled insulin plus basal insulin versus RAA in youth (4-17) with type 1 or 2 diabetes. The primary endpoint evaluated noninferiority for change in HbA1c from baseline to Week 26 between treatment groups, which was not met in the intent-to-treat population.

**Figure 1.** INHALE-1 Study Design



Post hoc descriptive analyses evaluated the change from baseline in Diabetes Treatment Satisfaction Questionnaire status (DTSQs).

DTSQs-Teen survey and -Parent survey (for children <13 years) were administered at baseline and Week 26 among participants.

The DTSQs is a validated patient-reported outcome measure assessing satisfaction with diabetes treatment. Example treatment satisfaction specific items are shown below for the teen survey, with a parallel parent version substituting “your child” for “you.”

- How satisfied are you with your current treatment?
- How easy or difficult is your diabetes treatment?
- How flexible is your diabetes treatment?
- How satisfied are you with your diabetes treatment during the school/college day?

Changes from baseline in DTSQs treatment satisfaction were summarized descriptively by treatment group for the subset of participants with Week 26 HbA1c <8%. Between-group comparisons were conducted using a two-sample, two-sided t-test.

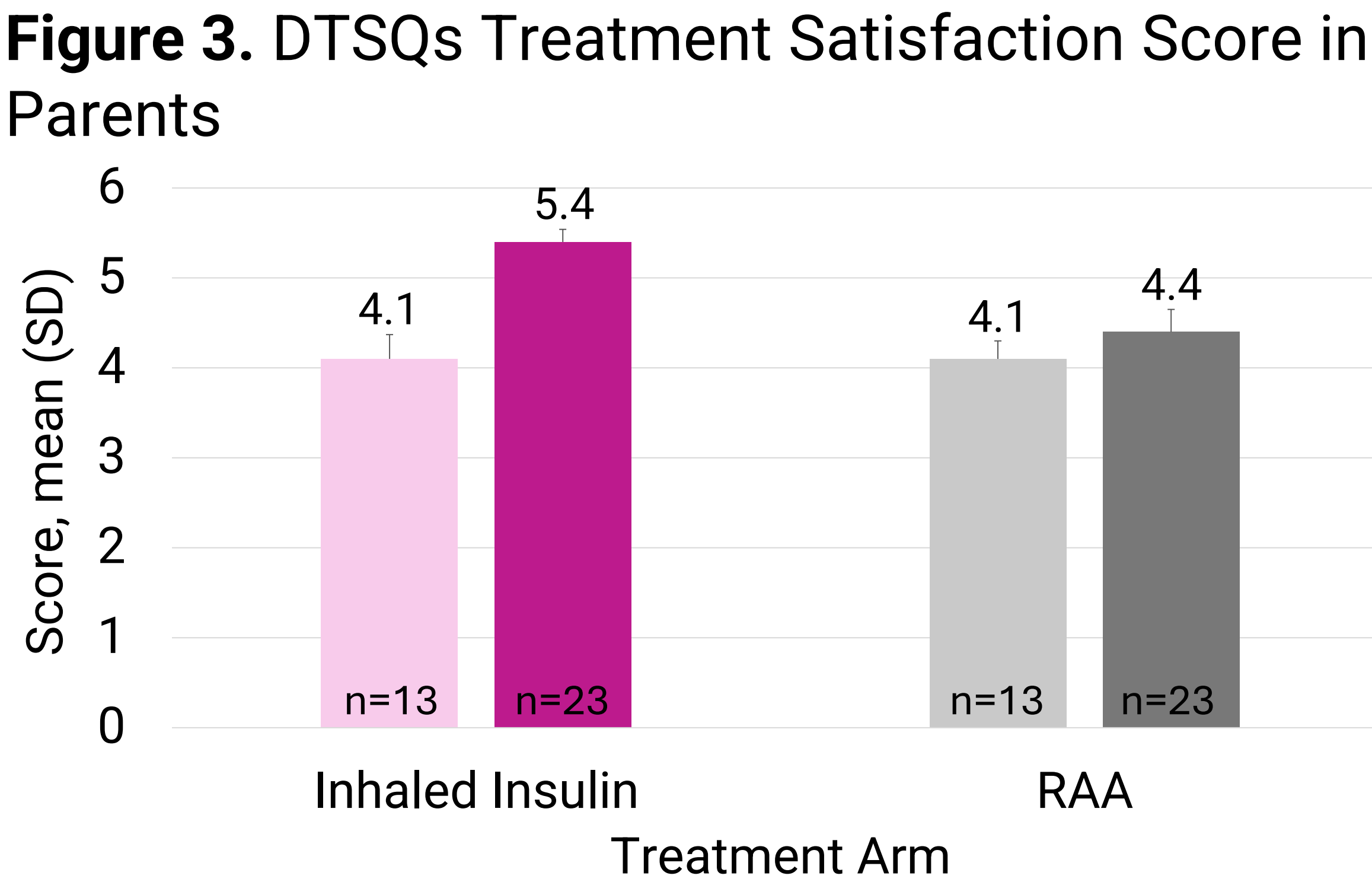
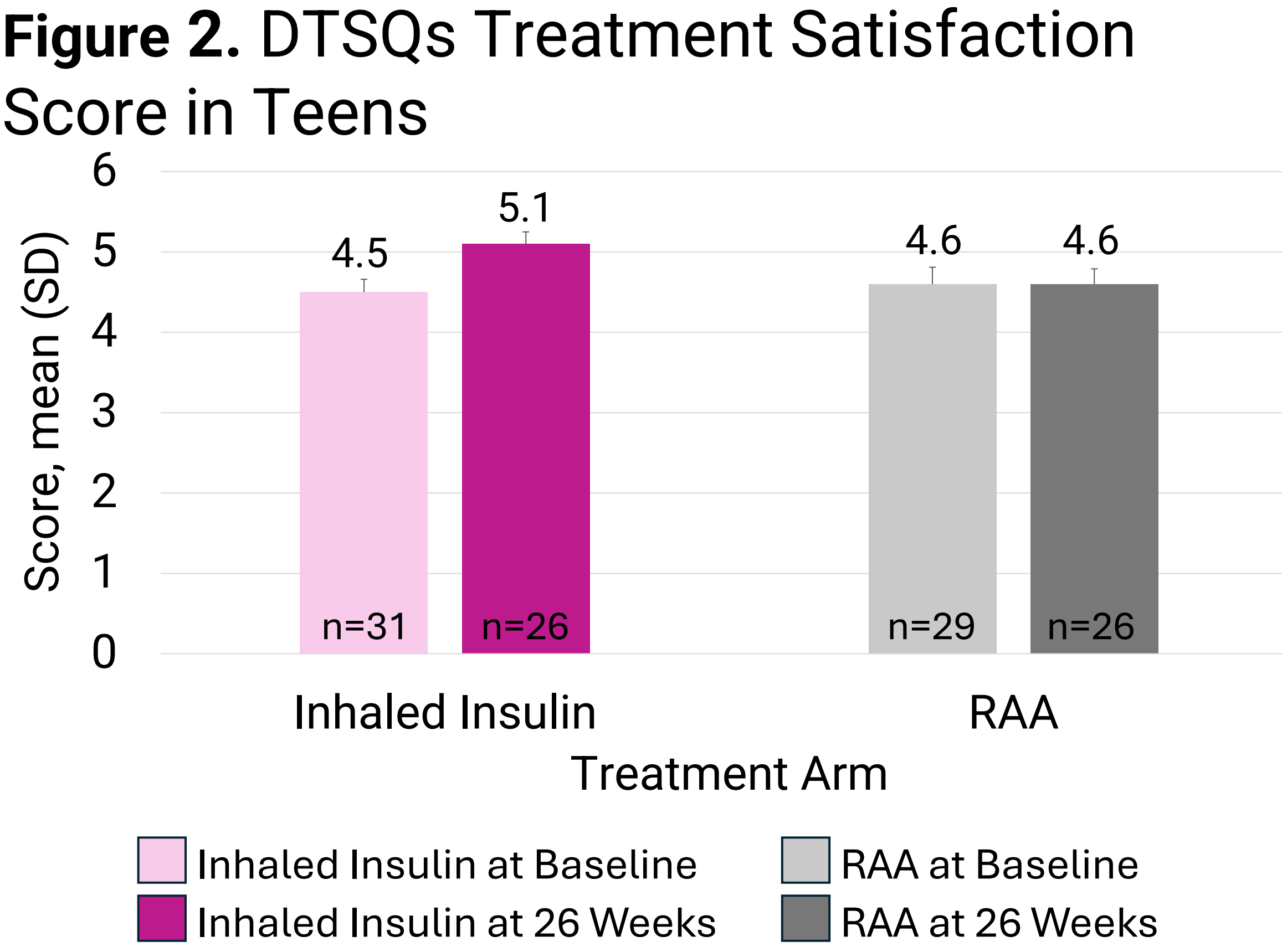
## RESULTS

**Table 1.** Baseline Characteristics

|                    | Inhaled Insulin<br>N=45 | RAA<br>N=49 |
|--------------------|-------------------------|-------------|
| Mean Age, yrs (SD) | 13.4 (2.9)              | 12.6 (3.0)  |
| Female, n (%)      | 15 (33.3)               | 20 (40.8)   |
| Mean HbA1c (SD)    | 7.62 (0.5)              | 7.60 (0.5)  |

Previously reported primary glycemic outcomes indicated similar HbA1c responses between inhaled insulin and RAA in the overall cohort.

Within the Week-26 HbA1c <8% subgroup, mean improvement in DTSQs treatment satisfaction from baseline was greater with inhaled insulin than with RAA for both Teen (p<0.05) and Parent (p<0.01) versions, **Figure 2 and 3.**



**Table 2.** Between-Group Comparisons of DTSQs Treatment Satisfaction

|                                                     | Mean Difference<br>(TI-RAA) | p-value |
|-----------------------------------------------------|-----------------------------|---------|
| Teen Treatment Satisfaction, Change from Baseline   | 0.57                        | 0.02    |
| Parent Treatment Satisfaction, Change from Baseline | 1.03                        | 0.01    |

### Safety

No new safety signals were identified, and reductions in HbA1c were achieved without an increased risk of hypoglycemia.