



# **MPOG Pediatric Committee Meeting**

June 23, 2025

# Agenda

## **Announcements and Updates**

*Dr. Vikas O'Reilly-Shah, Chair, MPOG Pediatrics Committee*

## **Measure Review: SUS-05-Peds**

*Dr. Brady Still, University of Chicago*

*Dr. Eva Lu-Boettcher, University of Wisconsin*

## **Measure Reviews: Patient Blood Management TRAN-03 and TRAN-04**

*Dr. Jeanna Havidich, Vanderbilt*

*Dr. Aman Kalsj, Vanderbilt*

# Upcoming Meetings

## **Pediatric Committee Meeting**

**Monday at 4pm Eastern**

- Monday, December 1<sup>st</sup> @ 4pm ET

## **MPOG Retreat at ASA**

**San Antonio, TX**

- Friday, October 10<sup>th</sup>



# Upcoming MPOG Pediatric Research Proposal

PCRC 302 - July 14, 2025 @ 10am Eastern

## **Practice patterns of inotropic medication use in pediatric cardiac surgery**

Primary Authors: Jakob Wollborn and Julian Hubrich

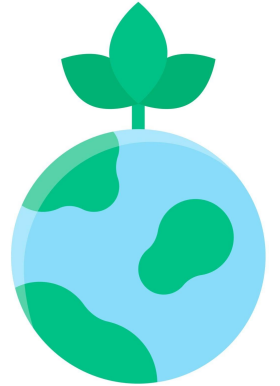
Lead Institution: Brigham and Women's

Anyone from an active MPOG site is invited to attend.

Email [mpog-research@med.umich.edu](mailto:mpog-research@med.umich.edu) if interested in attending



# Updates from MPOG Quality Committee



All *non-pediatric specific* sustainability measures were reviewed and voted on in May 2025

- **Minimize Average Fresh Gas Flow:** SUS-01 ( $\leq 3L$ ), SUS-04 ( $\leq 2L$ )
  - Add exclusion for ASA 5&6
  - New Measure Approved: **SUS-08 ( $\leq 1L$ , Maintenance)**
  - New Measure Approved: **SUS-09 ( $\leq 6L$ , Induction)**
- **Global Warming Footprint:** SUS-02 (maintenance), SUS-03 (induction)
  - Modify to use GWP20 vs. GWP 100 values for inhaled agents
  - New Measure Approved: **SUS-10 (Carbon Footprint, Cuveele method)**

# NEW! Pediatric Comorbidity Phenotypes

Pediatric Comorbidity: Cardiovascular Disorders

Pediatric Comorbidity: Congenital Genetic Disorders

Pediatric Comorbidity: GI Disorders

Pediatric Comorbidity: Hematologic / Immunologic Disorders →

Pediatric Comorbidity: Malignancy Disorders

Pediatric Comorbidity: Metabolic Disorders

Pediatric Comorbidity: Miscellaneous Disorders

Pediatric Comorbidity: Neonatal Disorders

Pediatric Comorbidity: Neurologic / Neuromuscular Disorders

Pediatric Comorbidity: Renal Disorders

Pediatric Comorbidity: Respiratory

Pediatric Comorbidity: Transplant Disorders

Pediatric Comorbidity: Hematologic / Immunologic D...

Pediatric Comorbidity: Hematologic / Immunologic Disorders

Filtered by

☒ **Select all Options**

☒ Acquired Immunodeficiency

☒ Aplastic Anemias

☒ Coagulation/Hemorrhagic

☒ Diffuse Diseases of Connective Tissue

☒ Hemophagocytic Syndromes

☒ Hereditary Anemias

☒ Hereditary Immunodeficiency

☒ Leukopenia

☒ Missing

☒ None

☒ Other Hematologic/Immunologic

☒ Polyarteritis Nodosa & Related Conditions

☒ Sarcoidosis

☒ Transplantation

# MPOG Pediatrics Committee Leadership



- Dr. Morgan Brown will assume the Chair role starting January 2026
- Seeking interested faculty from an active MPOG site to serve as MPOG Peds Committee Vice Chair for a 2 year term.

## Chair



## Vice Chair



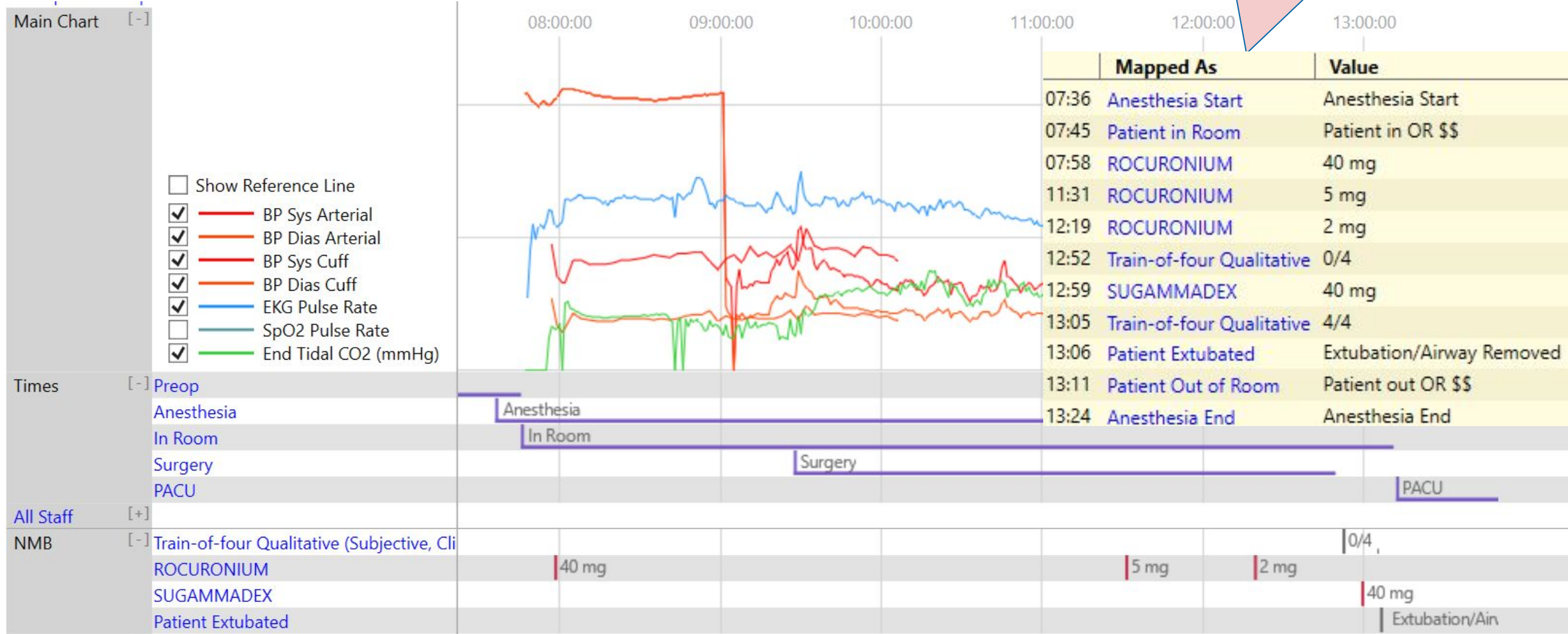
# March Meeting Recap

- Peds Committee voted to Modify NMB-03
- Specific Modifications Proposed
  - Update success criteria to **mg/kg/hr** threshold: Cumulative NMB dose during...
    - Anesthesia Duration?
    - Procedure Room Duration?
    - Measure Duration: Anesthesia Start → Extubation?
    - First NMB Dose → Extubation?
  - Exclusions
    - *Case Duration > 180 minutes*
    - Emergency Cases
    - Patients with full stomach considerations
      - Pyloromyotomy cases
      - Short Gut (ICD10 K90.82)

# Case Example: 14mo, 9.9kg, Anes Duration = 5hrs 48min

- Induction Dose = 4.04 mg/kg
- Normalized Dose = 0.8 mg/kg/hr

Should this case pass? or be flagged for review?



# Poll Questions for NMB-03-Peds



## 1. Measure Definition

- a. Continue to measure *initial* NMB dose but **Exclude cases > 180 minutes**
- b. Continue to include longer cases but flag cases with a **normalized dose > 0.5 mg/kg/hr**

**Rationale:** if a case is expected to last longer, you may intentionally use a higher initial dose, given that higher dosing might be justified. No clear cutoff for safe dosing over time, however one study found doses > 0.5 mg/kg/hr were associated with higher rates of residual blockade

## 2. Additional Exclusions

- a. Emergency Cases
- b. Patients with GI Comorbidities

**Rationale:** Full stomach considerations for patients with pyloromyotomy and short gut



# Measure Review: SUS-05-Peds

*Dr. Brady Still (UChicago Medicine)*  
*Dr. Eva Lu-Boettcher (University of Wisconsin)*

# SUS-05-Peds: Nitrous oxide avoided, induction

**Measure Type:** Process

**Threshold:** 90%

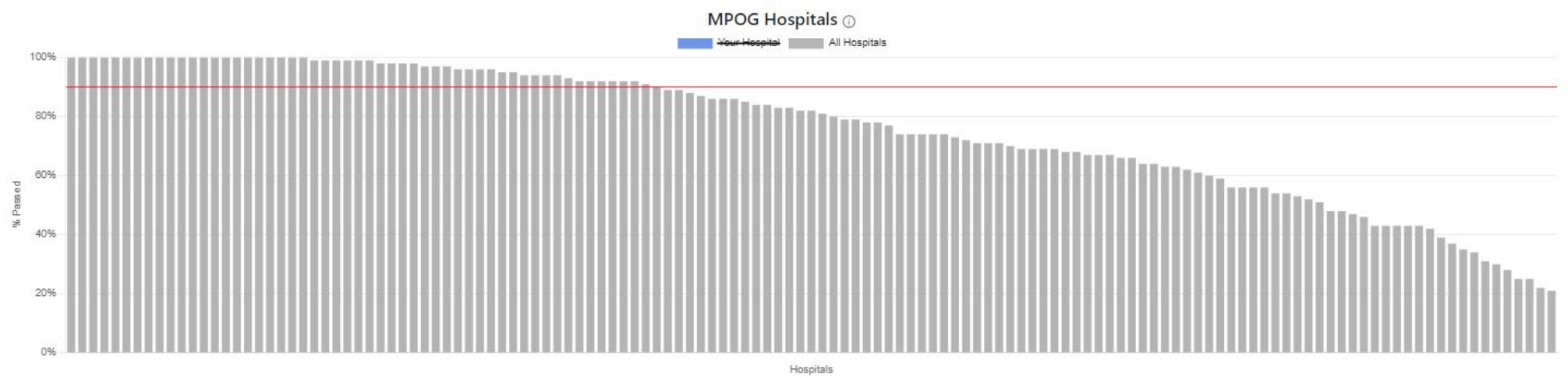
**Description:** Percentage of pediatric patients < 18 years old where nitrous oxide was avoided during induction of general anesthesia.

## Exclusion Criteria

- Age  $\geq$  18 years
- Patients who did not receive general anesthesia (determined by Anesthesia Technique: General value codes > 0)

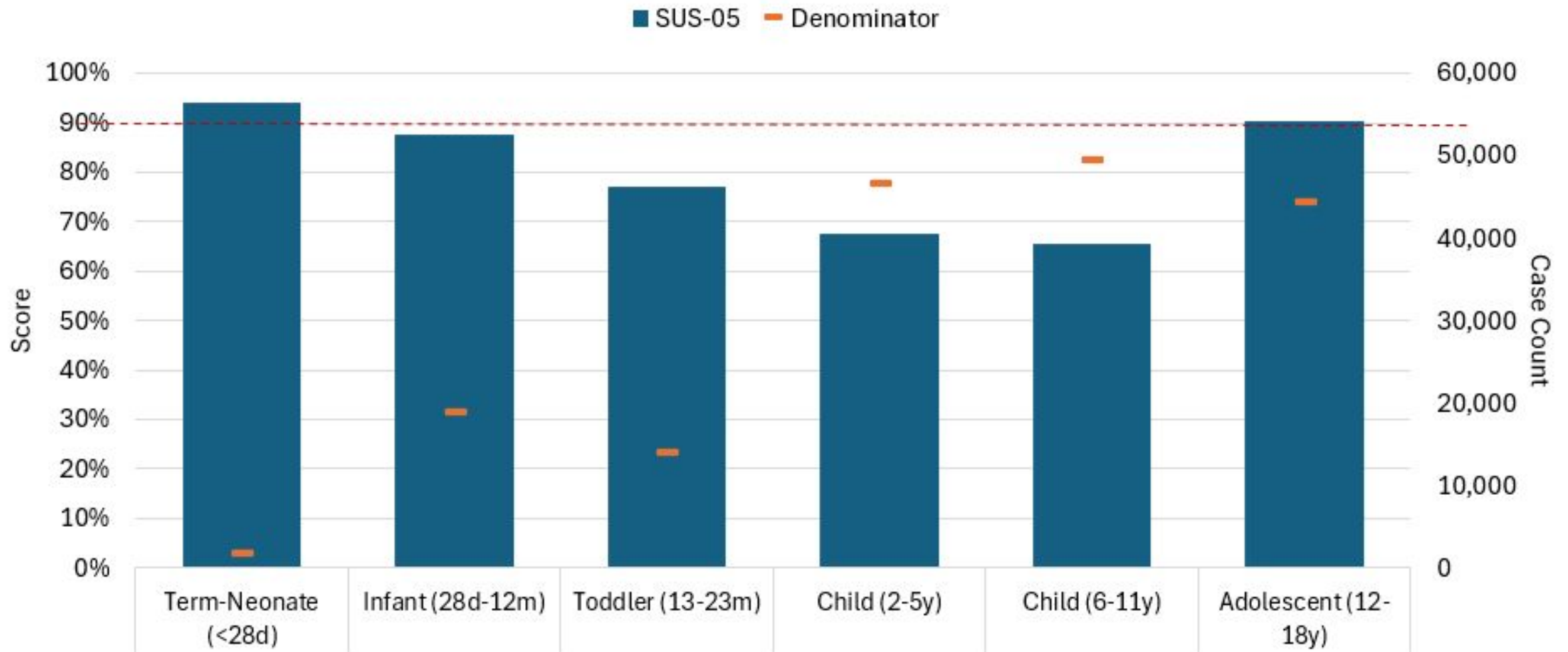
# Nitrous Avoided Compliance by Institution

*MPOG Hospitals, past 12 months*



# Nitrous Avoided Compliance by Age Group

*MPOG Pediatric Hospitals, past 12 months*

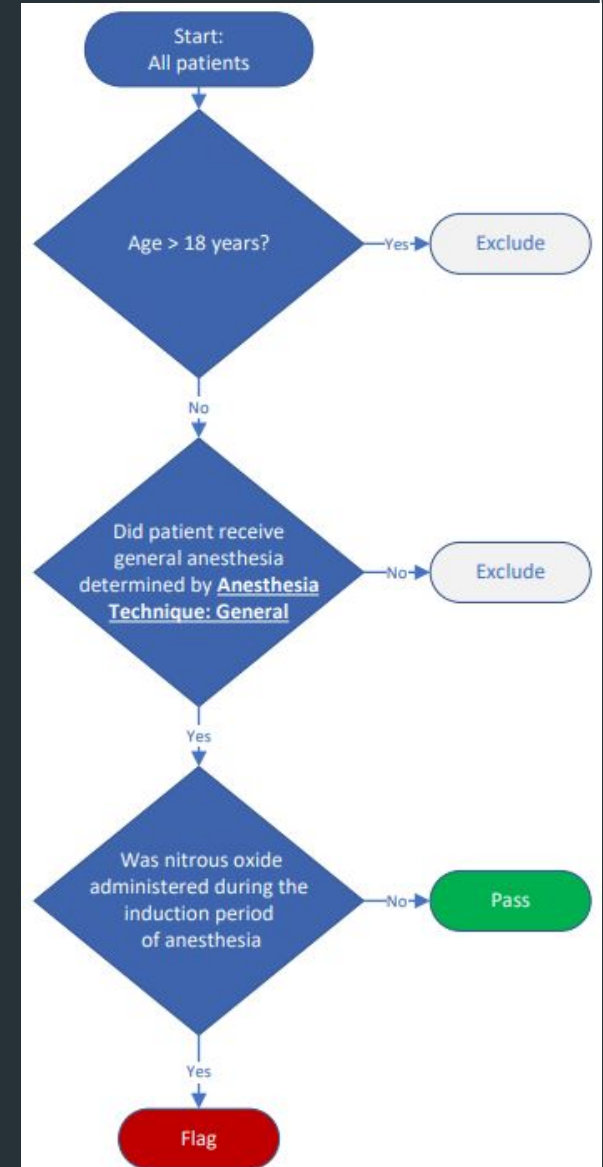


# Sustainability Workgroup Met on April 28th

## SUS-05-Peds

- The group is considering excluding standard IV inductions given to minimize score inflation (nitrous oxide is less likely to be used during induction for IV inductions)

| SUS-05 Result | Induction Type |              |                |                          |  |
|---------------|----------------|--------------|----------------|--------------------------|--|
|               | Intramuscular  | IV Induction | Mask Induction | Rapid Sequence Induction |  |
| Failed        | 6.25%          | 8.99%        | 39.67%         | 9.68%                    |  |
| Passed        | 93.75%         | 91.01%       | 60.33%         | 90.32%                   |  |



# Example cases that resulted as IV Induction and Flagged for SUS-05

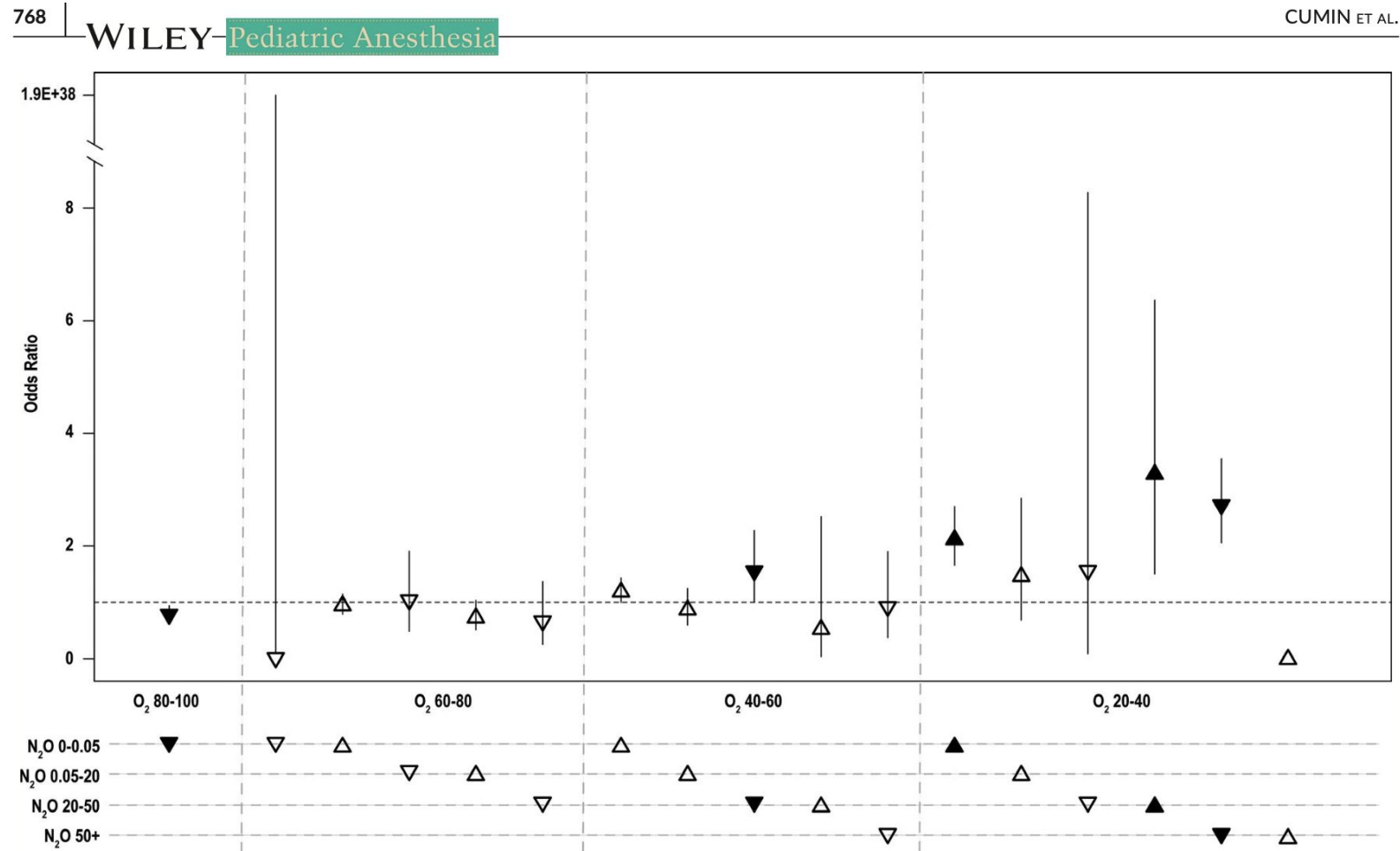
| Age | Induction_Type   | Induction_Start | Induction_End  |
|-----|------------------|-----------------|----------------|
| 13  | Rapid Sequence I | 3/25/2025 7:58  | 3/25/2025 8:15 |

|                               |                             |                                                  |
|-------------------------------|-----------------------------|--------------------------------------------------|
| Induction Procedure           |                             | Intravenous                                      |
| Airway - Fretext Comments     |                             | RSI given patient emesis just prior to induction |
| Mar 25, 2025 (day of surgery) |                             |                                                  |
| 07:54                         | Patient in Room             | Patient in OR \$\$                               |
| 07:59                         | ROCURONIUM                  | 60 mg                                            |
| 07:59                         | PROPOFOL                    | 200000 mcg                                       |
| 07:59                         | Induction Start             | Induction                                        |
| 08:00                         | Nitrous Insp %              | 59.2                                             |
| 08:01                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:01                         | Nitrous Insp %              | 64.8                                             |
| 08:02                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:02                         | Nitrous Insp %              | 68.7                                             |
| 08:03                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:03                         | Nitrous Insp %              | 68.8                                             |
| 08:04                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:04                         | Nitrous Insp %              | 69                                               |
| 08:05                         | Nitrous Insp %              | 69.1                                             |
| 08:05                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:06                         | Flows Nitrous Oxide (L/min) | 5.6                                              |
| 08:06                         | Nitrous Insp %              | 68.9                                             |

| Age | Induction_Type | Induction_Start | Induction_End |
|-----|----------------|-----------------|---------------|
| 6   | IV Induction   | 3/22/25 19:50   | 3/22/25 19:59 |

|                                |                  |                 |
|--------------------------------|------------------|-----------------|
| Assessment and Plan - Comments |                  | IV induction    |
| Mar 22, 2025 (day of surgery)  |                  |                 |
| 19:45                          | Patient in Room  | Patient In - OR |
| 19:46                          | MIDAZOLAM        | 1 mg            |
| 19:50                          | Induction Start  | G/A Induction   |
| 19:51                          | Nitrous Insp %   | 36              |
| 19:52                          | Nitrous Insp %   | 67              |
| 19:53                          | Nitrous Insp %   | 65              |
| 19:54                          | Nitrous Insp %   | 14              |
| 19:55                          | Nitrous Insp %   | 6               |
| 19:56                          | PROPOFOL         | 50 mg           |
| 19:56                          | Nitrous Insp %   | 2               |
| 19:57                          | Nitrous Insp %   | 1               |
| 20:05                          | Anesthesia Ready | Anesth Ready    |

# Risk of hypoxemia



**FIGURE 3** The odd ratios (and 95% CI) for the risk of hypoxemia for each combination of gases (as per the table). Filled triangles indicate the confidence interval for the odds ratio did not pass through 1, a down arrow is  $FiN_2 < 20$  and an up arrow is  $20+$ . Inspired oxygen decreases from left to right in the four categories and  $FiN_2O$  changes within each oxygen band according to the guide at the bottom

# Summary of Proposed Modifications: SUS-05



## Rationale

*Recommendation:* addition of the sentence, “In addition to its greenhouse warming potential, N<sub>2</sub>O reduces the FiO<sub>2</sub> used during preoxygenation, decreasing safe ‘ apneic time.”

## Definition

*Current:* Percentage of pediatric patients < 18 years old where nitrous oxide was avoided during induction of general anesthesia.

*Recommendation:* .....where nitrous oxide was avoided during **inhalational** induction of general anesthesia.

## Inclusion Criteria

*Current:* Pediatric patients undergoing general anesthesia

*Recommendation:* Pediatric patients undergoing general anesthesia **with inhalational induction**



# MPOG Measure Review

## TRAN-03-Peds

## TRAN-04-Peds

*Jeana E. Havidich, MD, MS*

*Aman Kalsi, MBBS*

*June 23, 2025*



# Agenda

- Review Measures
- Discuss the Importance of Pediatric Patient Blood Management
- Review Current Dashboard
- Evaluate Current Metrics
- Discussion Points
- Recommendations

# Patient Blood Management

PBM is defined as a Patient-centered, systematic, evidence-based approach to improve patient outcomes by managing and preserving a patient's own blood while promoting patient safety and empowerment

*Shander, A. , Hardy, J. , Ozawa, S. , Farmer, S. , Hofmann, A. , Frank, S. , Kor, D. , Faraoni, D. & Freedman, J. (2022). A Global Definition of Patient Blood Management. Anesthesia & Analgesia, 135 (3), 476-488.*

## Pillars of PBM

**Pillar I:** Optimize RBC mass and avoid iatrogenic anemia

**Pillar II:** Minimize blood loss and coagulopathy

**Pillar III:** Optimize tissue oxygenation and tolerance of anemia and coagulopathy

# Association for the Advancement of Blood and Biotherapies (AABB) Guidelines for Children

## Recommendation 3

For critically ill children and those at risk of critical illness who are hemodynamically stable and without a hemoglobinopathy, cyanotic cardiac condition, or severe hypoxemia, the panel recommends a restrictive transfusion strategy (transfuse Hb < 7 g/dl)

## Recommendation 4

For hemodynamically stable children with congenital heart disease, the panel suggests a transfusion threshold that is based on the cardiac abnormality and stage of surgical repair

|                                      |                               |
|--------------------------------------|-------------------------------|
| Biventricular Repair                 | Hemoglobin <b>7g/dl</b>       |
| Single Ventricle Palliation          | Hemoglobin <b>9 g/dl</b>      |
| Uncorrected Congenital Heart Disease | Hemoglobin <b>7 to 9 g/dl</b> |

**Table 4. Summary of Findings in Trials Comparing Liberal vs Restrictive Transfusion Strategies on Mortality, Morbidity, and Blood Transfusion in Children**

| Outcome, No. of participants (No. of RCTs)                                          | Relative effect (95% CI) | Anticipated absolute effects (95% CI), % |         |                                    | Certainty               | Plain language summary                                                           |
|-------------------------------------------------------------------------------------|--------------------------|------------------------------------------|---------|------------------------------------|-------------------------|----------------------------------------------------------------------------------|
|                                                                                     |                          | Restrictive                              | Liberal | Difference (95% CI)                |                         |                                                                                  |
| Participants exposed to blood transfusion, 799 (2)                                  | RR, 0.51 (0.41-0.65)     | 48.0                                     | 94.2    | 46.2 Fewer (55.6 to 33 fewer)      | High                    | Restrictive transfusion threshold has a large effect on reduction of transfusion |
| 30-d Mortality (follow-up range, 28-30 d), 972 (5)                                  | RR, 0.44 (0.04-4.45)     | 1.7                                      | 3.9     | 2.2 Fewer (3.8 fewer to 13.5 more) | Moderate <sup>a,b</sup> | Transfusion threshold likely has little effect on mortality                      |
| Pneumonia, 744 (2)                                                                  | RR, 1.14 (0.58-2.23)     | 4.6                                      | 4.0     | 0.6 More (1.7 fewer to 5 more)     | Moderate <sup>a</sup>   | Transfusion threshold likely has little or no effect on pneumonia                |
| Thrombosis (follow-up, 28 d), 799 (2)                                               | OR, 1.78 (0.61-5.22)     | 2.3                                      | 1.3     | 1.0 More (0.5 fewer to 5.4 more)   | Low <sup>c</sup>        | Transfusion threshold may have little or no effect on thrombosis                 |
| 30-d Mortality subgroup analysis by clinical specialties (cardiac surgery), 454 (4) | RR, 0.62 (0.12-3.13)     | 1.1                                      | 1.8     | 0.7 Fewer (1.6 to 3.8 more)        | Low <sup>a,b,d</sup>    | Transfusion threshold may have little effect on mortality                        |

# AABB Recommendations based on Age and Stability: Neonates

Table 1: Recommended transfusion thresholds for neonates with clinical instability<sup>6</sup>

| Preterm Neonates <35 weeks | Hemoglobin |
|----------------------------|------------|
| 0-7 days                   | <11 g/dL   |
| 8-14 days                  | <10 g/dL   |
| >= 15 days                 | <8 g/dL    |
| Neonates >= 35 Weeks       | Hemoglobin |
| 0-7 days                   | <11 g/dL   |
| >= 8 days                  | <7 g/dL    |



Table 2: Recommended transfusion thresholds for stable neonates<sup>7,8</sup>

| Preterm Neonates <35 weeks | Hemoglobin |
|----------------------------|------------|
| 0-7 days                   | <10 g/dL   |
| 8-14 days                  | <8 g/dL    |
| >= 15 days                 | <7 g/dL    |
| Neonates >= 35 Weeks       | Hemoglobin |
| 0-7 days                   | <10 g/dL   |
| >= 8 days                  | <7 g/dL    |

## PATIENT BLOOD MANAGEMENT IN PEDIATRICS

By Shaughn Nalezinski, MS, MLS(ASCP)<sup>cm</sup>SBB<sup>cm</sup>, MLS(AMT)

Department of Laboratory Medicine Transfusion Services

Concord Hospital

Concord, NH

**JULY 2024**

## Strategies to guide perioperative haemoglobin transfusions in pediatric patients perioperatively.

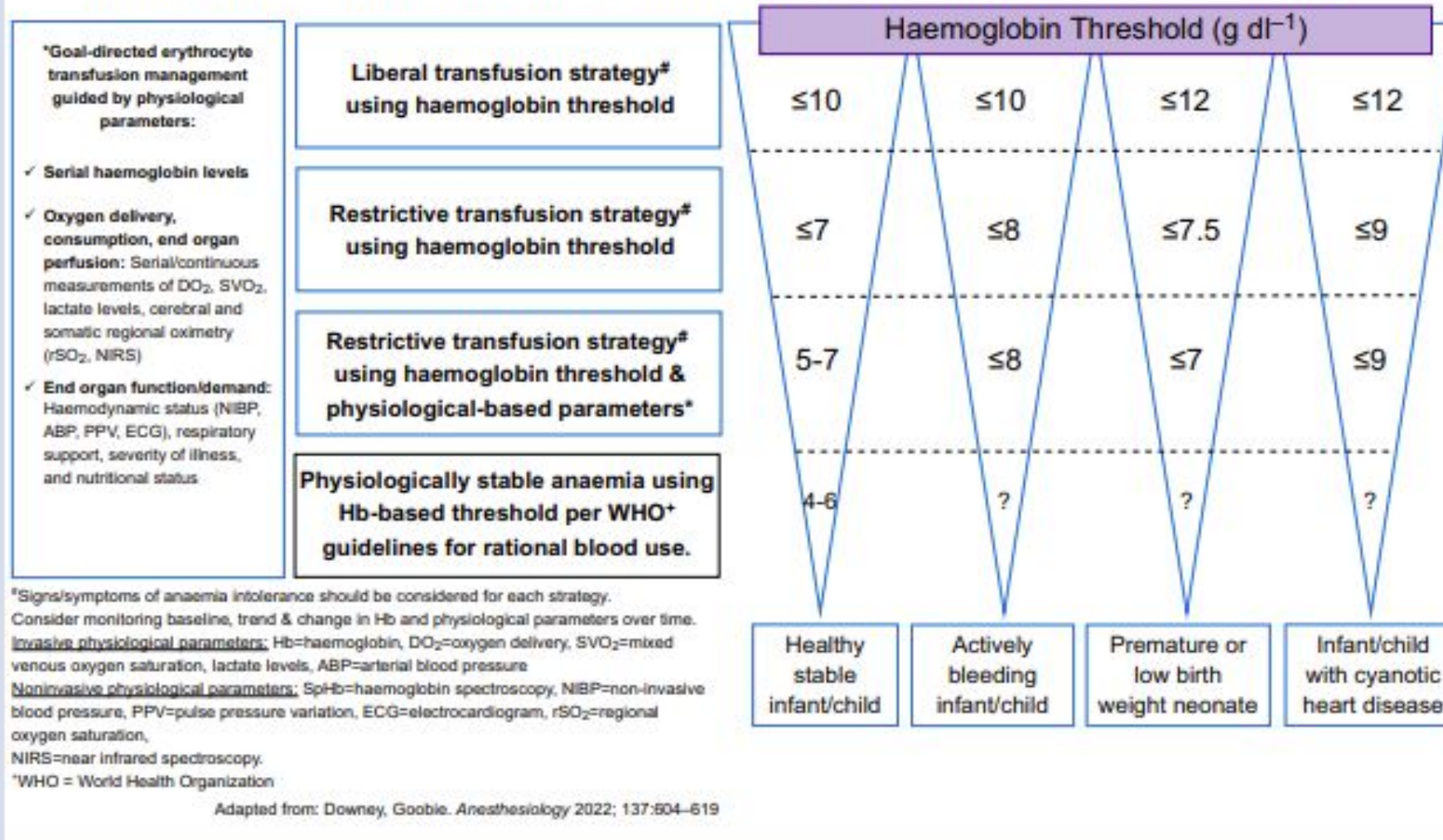


Fig 1. Strategies to guide perioperative haemoglobin transfusions in paediatric patients perioperatively.

# Challenges with PBM Metrics in Pediatrics

- Limited Evidence (expert/panel opinion)
- Publication Bias (ICU vs OR) and few institutions publish their results
- Currently not routinely implemented as a Standard of Care (slow adoption)
- Heterogeneous population
  - Premature neonates □ adults
- Specific considerations based on age, weight, physiology, comorbidities, postoperative course
- “Tank Up” practice phenomenon
- Relative lack of evidence of complications in healthy patients with Hgb level > 10 g/dl
- Knowledge deficit among providers
- Lack of PBM recommendations in pediatric hospitals
- Lag time in results may impact clinical decisions

# MPOG TRAN-03-PEDS

**TRAN-03-Peds:** Percentage of pediatric patients  $\geq 6$  months to 18 years old who receive a blood transfusion and had a valid hemoglobin or hematocrit value documented prior to transfusion.

## Exclusions

- Age  $< 6$  months and  $\geq 18$  years
- ASA 6 including Organ Procurement (CPT: 01990)
- Cardiac case with CPB (determined by Procedure Type: Cardiac (pediatric) value code 1)
- Massive Transfusion or blood loss: Defined as volume of 40mL/kg
- No intraoperative transfusion
- Obstetric cases (determined by Obstetric Anesthesia Type value codes  $> 0$ )

Most Institutions succeed

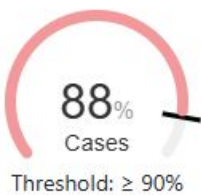
- Case will PASS if
  - Hgb and Hct documented before each transfusion volume of  $\geq 15$  ml/kg
  - Most recent Hgb/Hct  $\leq 5/16$  and a volume of  $< 30$ ml/kg transfused
  - If most recent Hgb/Hct  $< 8/24$  within 36 hours of first transfusion

## Recommendations

- Defining Massive Transfusion as  $\geq 40$  ml/kg
- Consider including ANY transfusion (can be  $\leq 15$  ml/kg)
- Clarify definition of unit
- Compliant with Best Practice
- **Keep Metric**

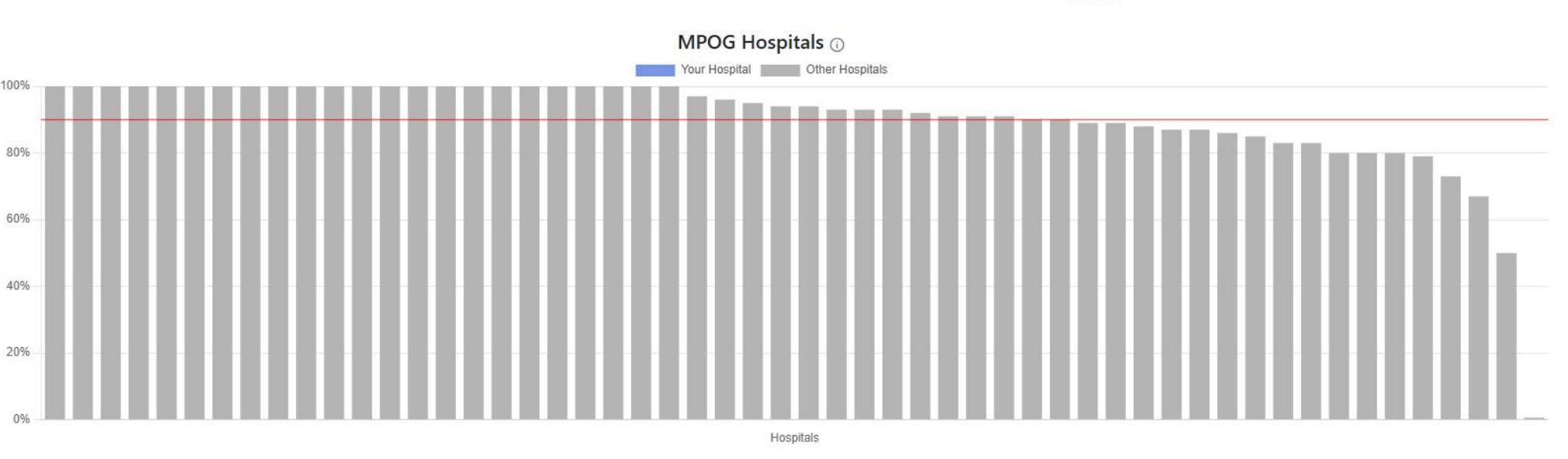
# TRAN-03

## Overall Score



## Result Counts

| Result       | Case Count    |
|--------------|---------------|
| Passed       | 94            |
| Flagged      | 13            |
| Excluded     | 18,224        |
| <b>Total</b> | <b>18,331</b> |



Most Organizations achieve or nearly achieve the benchmark  
*Accessed June 14, 2025*

\*all ages 6 mo. - 18y

# Hgb/Hct Lab Checked prior to PRBC Transfusion

MPOG Pediatric Hospitals, Past 12 months



# TRAN-03: Transfusion Vigilance

1 vote / site

Continue as is/ modify/ retire

Need > 50% to retire measure

Coordinating center will review all votes after meeting to ensure no duplication



# TRAN-04-Peds: Elevated Hgb/Hct Post-Transfusion

**Measure Type:** Outcome

**Threshold:** 10%

**Description:** Percentage of pediatric patients  **$\geq 6$  months to 18 years** old with a post transfusion hemoglobin or hematocrit value greater than or equal to 10 g/dL or 30% within 18 hours of Anesthesia End.

## Exclusion Criteria

- ASA 6
- Patients who did not receive at least 15 mL/kg intraop
- Cardiac Bypass cases
- Cases with Massive Transfusion ( $\geq 40$  mL/kg)

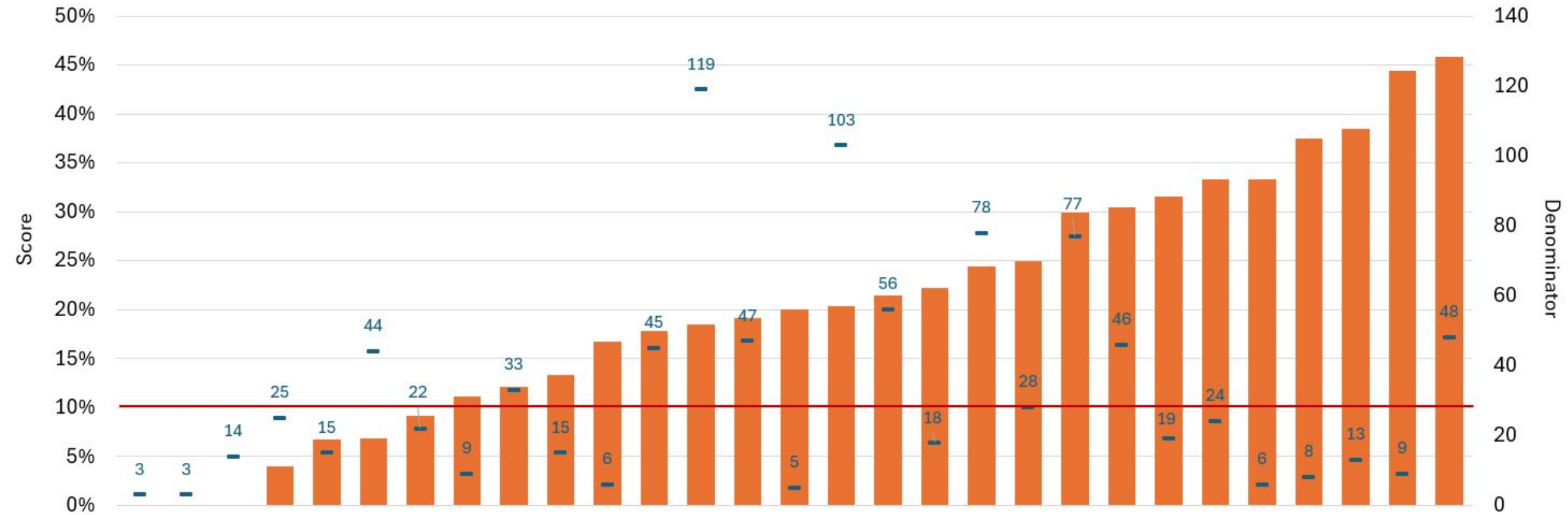
\*all ages 6 mo. - 18y

A significant number of institutions  
Flagged (threshold < 10%)

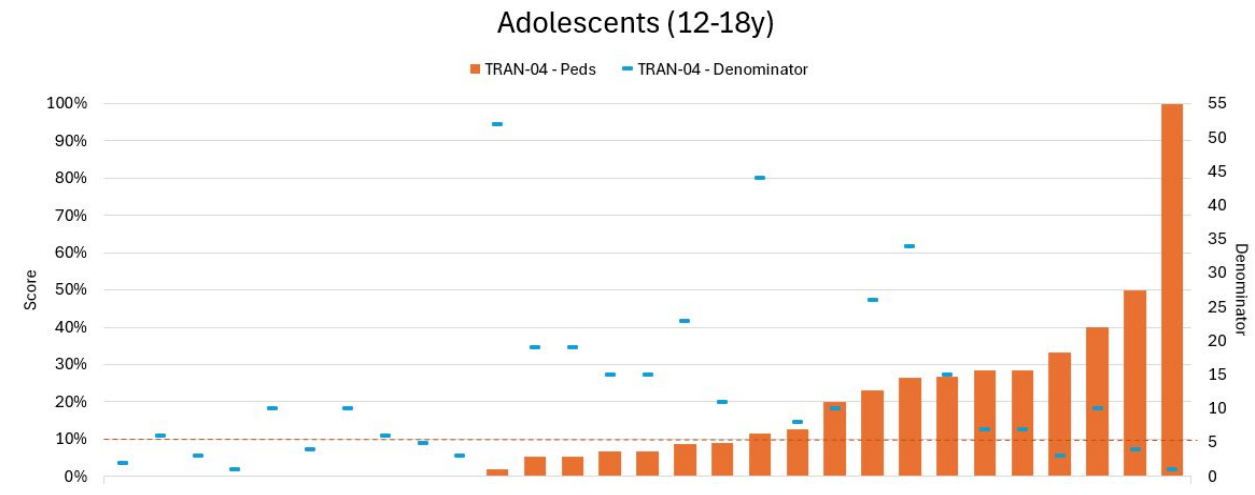
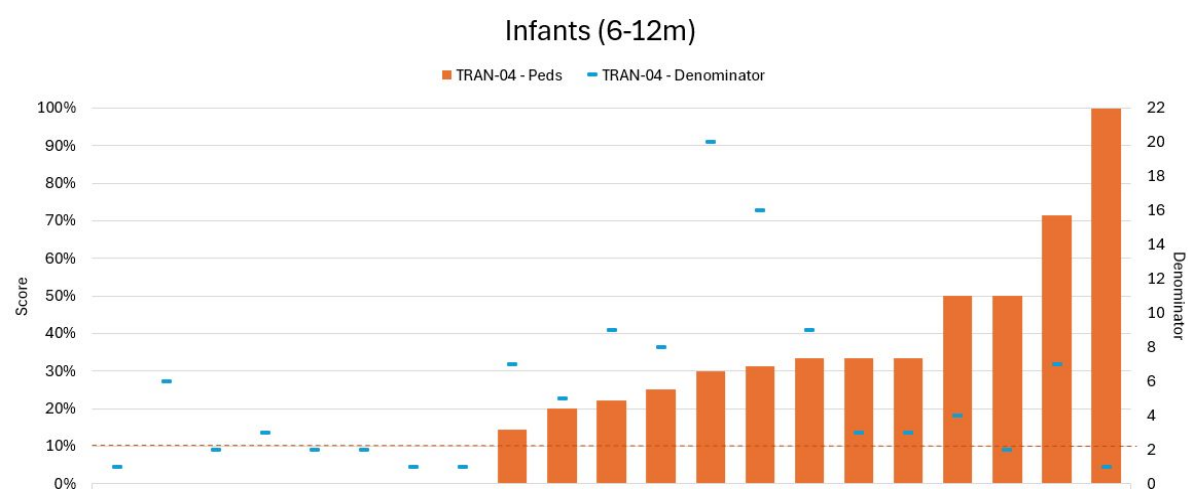
## Post-Transfusion Hgb/Hct > 10g/dL or 30%

MPOG Pediatric Hospitals, Past 12 months

TRAN-04 Denominator



# Comparison of Ages: Infant vs. Adolescent (*Accessed June 2025*)

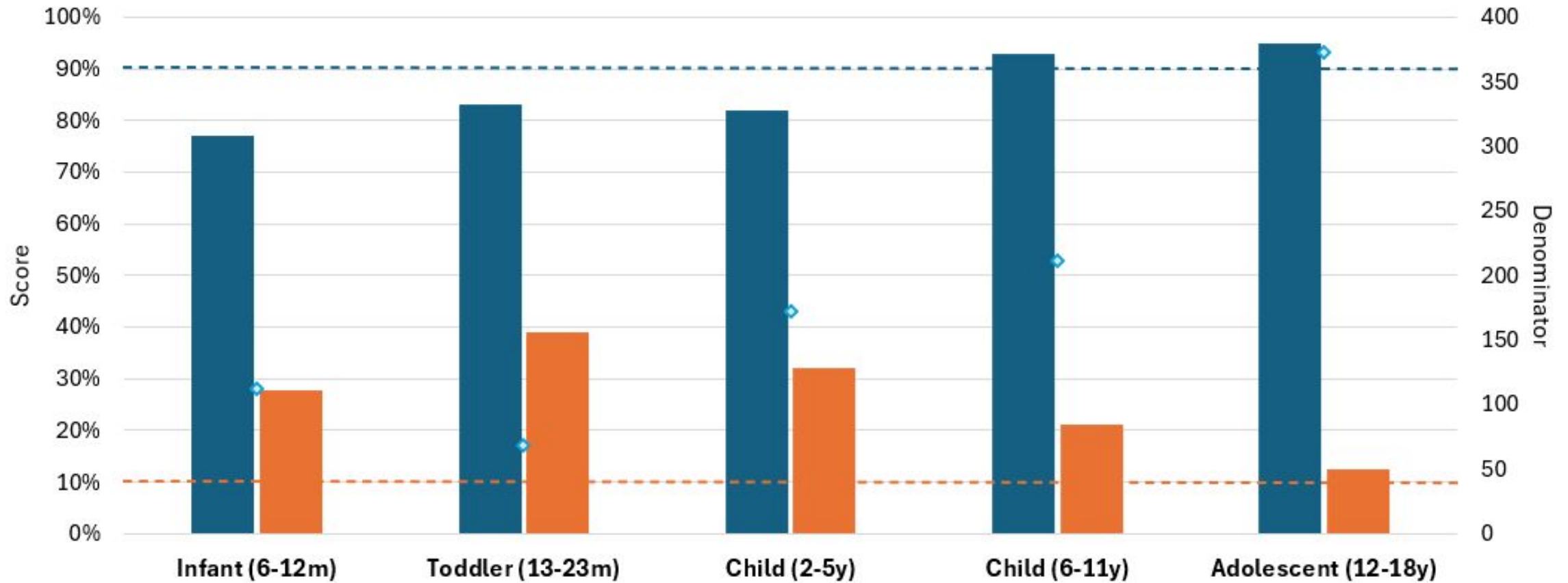


Suggests a higher 'pass' rate among older children

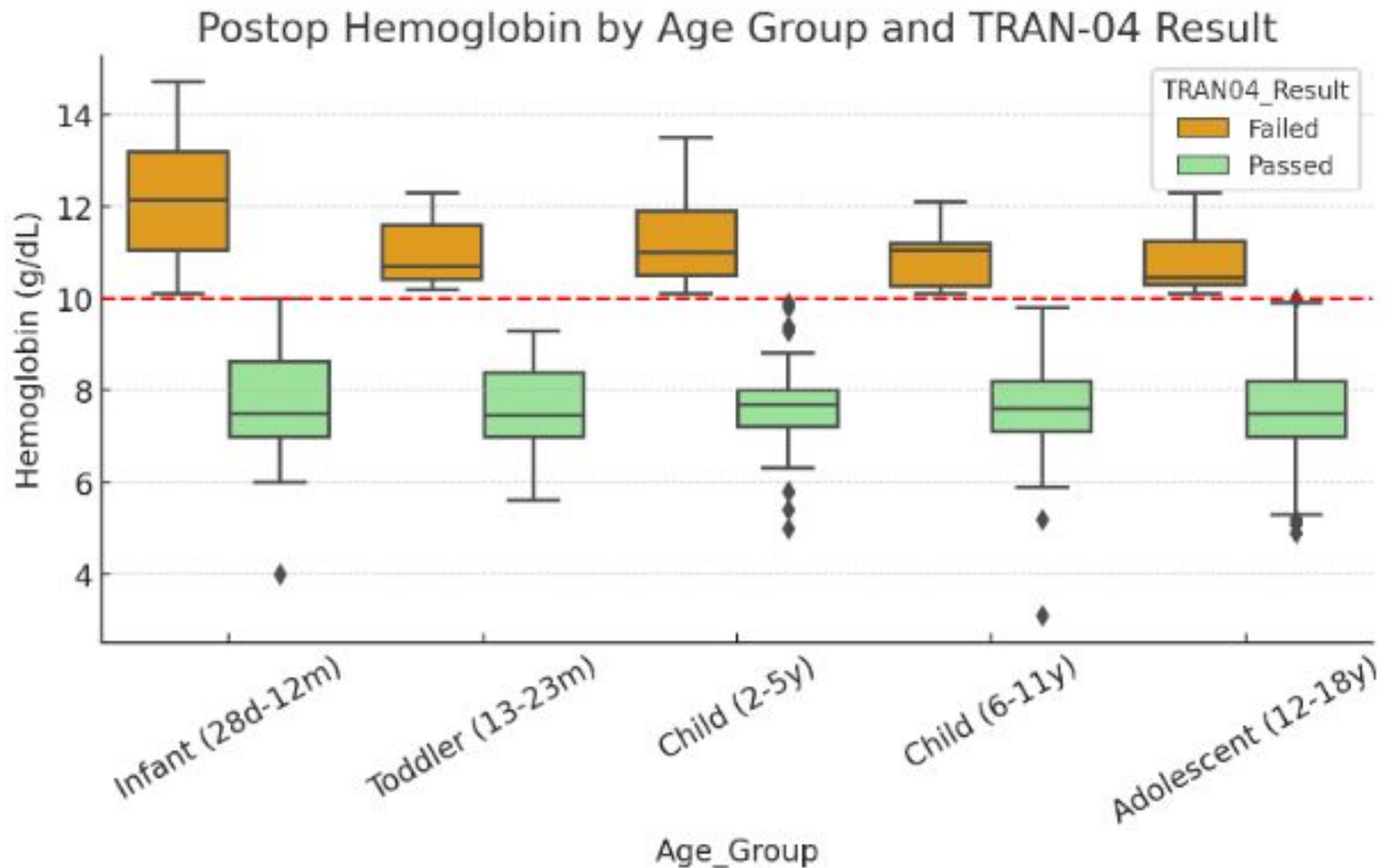
# MPOG Pediatric Hospitals

Past 12 months

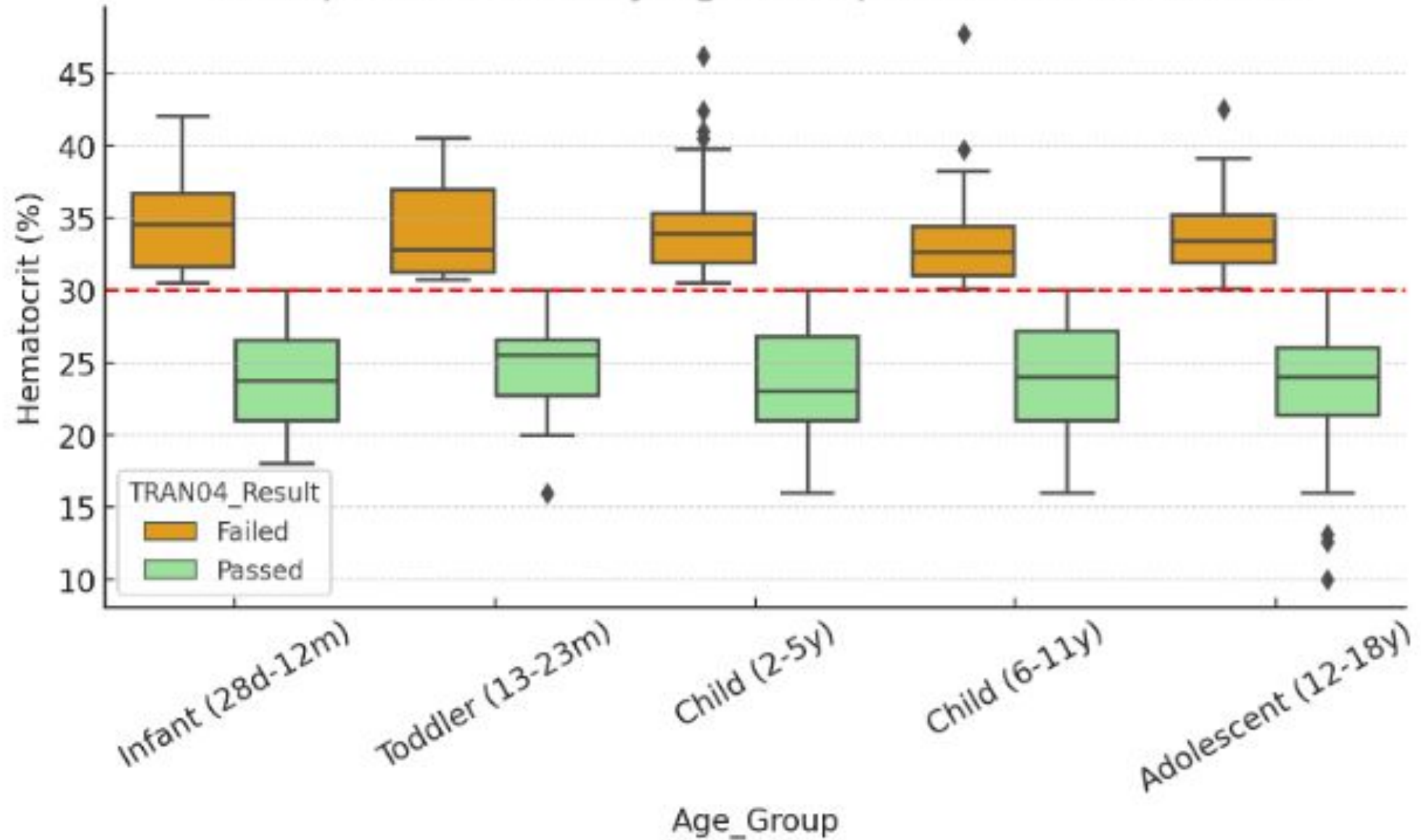
■ TRAN-03 ■ TRAN-04 ◆ Denominator



| Age Group           | TRAN-03 | TRAN-04 | Denominator |
|---------------------|---------|---------|-------------|
| Infant (6-12m)      | 77%     | 28%     | 112         |
| Toddler (13-23m)    | 83%     | 39%     | 69          |
| Child (2-5y)        | 82%     | 32%     | 172         |
| Child (6-11y)       | 93%     | 21%     | 212         |
| Adolescent (12-18y) | 95%     | 13%     | 373         |



Postop Hematocrit by Age Group and TRAN-04 Result



# Recommendations

- Committee to Review TRAN-04
- Consider exclusion criteria: Hemoglobinopathies
- Consider Age Categories
- Determine the cause of the large number of 'flagged' cases
- Reconsider if the threshold of hemoglobin of 10 g/dl is appropriate
- Consider the development of metric for neonates



# Summary of Proposed Modifications: TRAN-04



**PRBC transfusion definition**  $\geq 15$  ml/kg

Recommendation:  $\geq 10$  ml/kg

OR any transfusion volume

**Inclusion Criteria**  $\geq 6$  months  $< 18$ y

Recommendation: limit age group to  $\geq 6$  months  $< 12$ y

OR patients  $< 50$ kg

## **Exclusion Criteria**

Recommendation:

- Patients with certain cardiac or hematologic comorbidities
- Transplant cases, all cardiac cases, cranial vaults

**Success Criteria** - Postop Hgb  $< 10$  mg/dl or Hct  $< 30\%$

Recommendation

- (no hematologic comorbidities): Postop Hgb  $< 12$  mg/dl or Hct  $< 40\%$
- (hematologic comorbidities): Postop Hgb  $< 14$  mg/dl or Hct  $< 45\%$

Dr. Jeana E. Havidich  
[Jeana.Havidich@vumc.org](mailto:Jeana.Havidich@vumc.org)  
Dr. Aman Kalsi  
[Aman.Kalsi@vumc.org](mailto:Aman.Kalsi@vumc.org)



# Participants from outside of MPOG are welcome to join our pediatric subcommittee!

**Next Meeting:**

Monday December 1, 2025

4 - 5pm Eastern



# Appendix

Measure Benchmark Performance

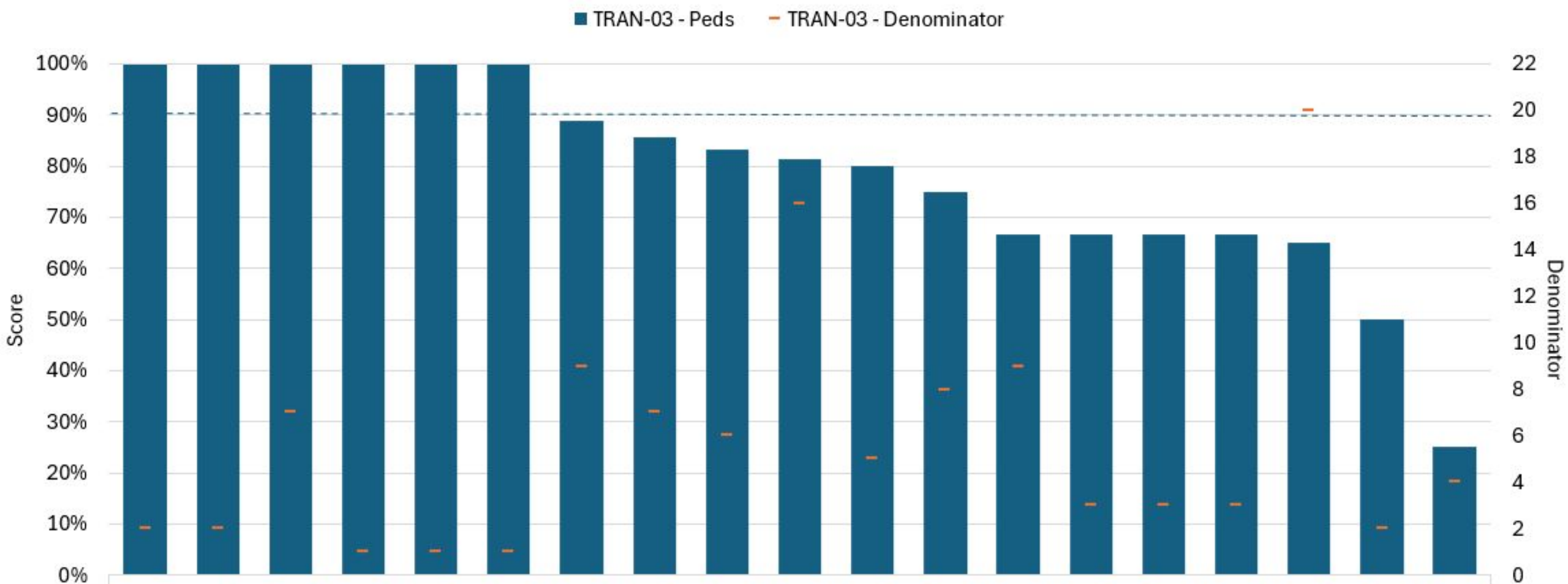
MPOG Pediatric Hospitals, Patients < 18y

April 2024 - May 2025

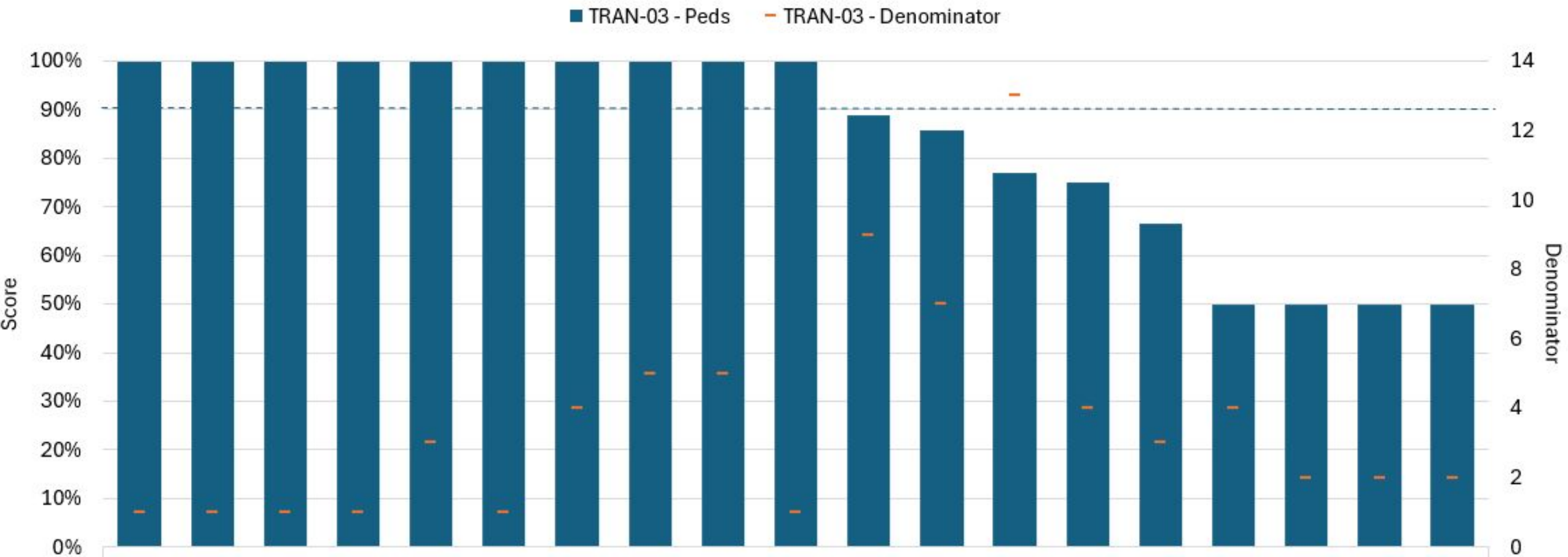
# TRAN-03-Peds

**Transfusion Vigilance:** Percentage of pediatric patients  $\geq 6$  months to 18 years old who received a blood transfusion and had a valid hemoglobin or hematocrit value documented within 90 minutes before each transfusion.

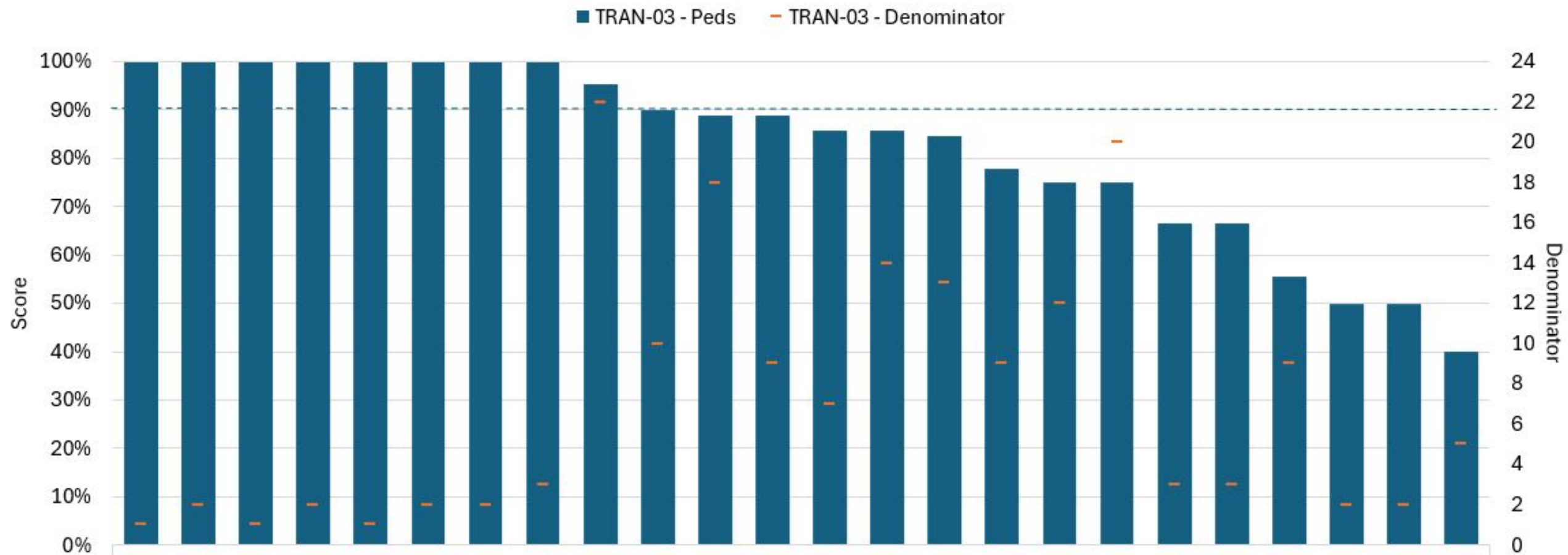
## Infants (6-12m)



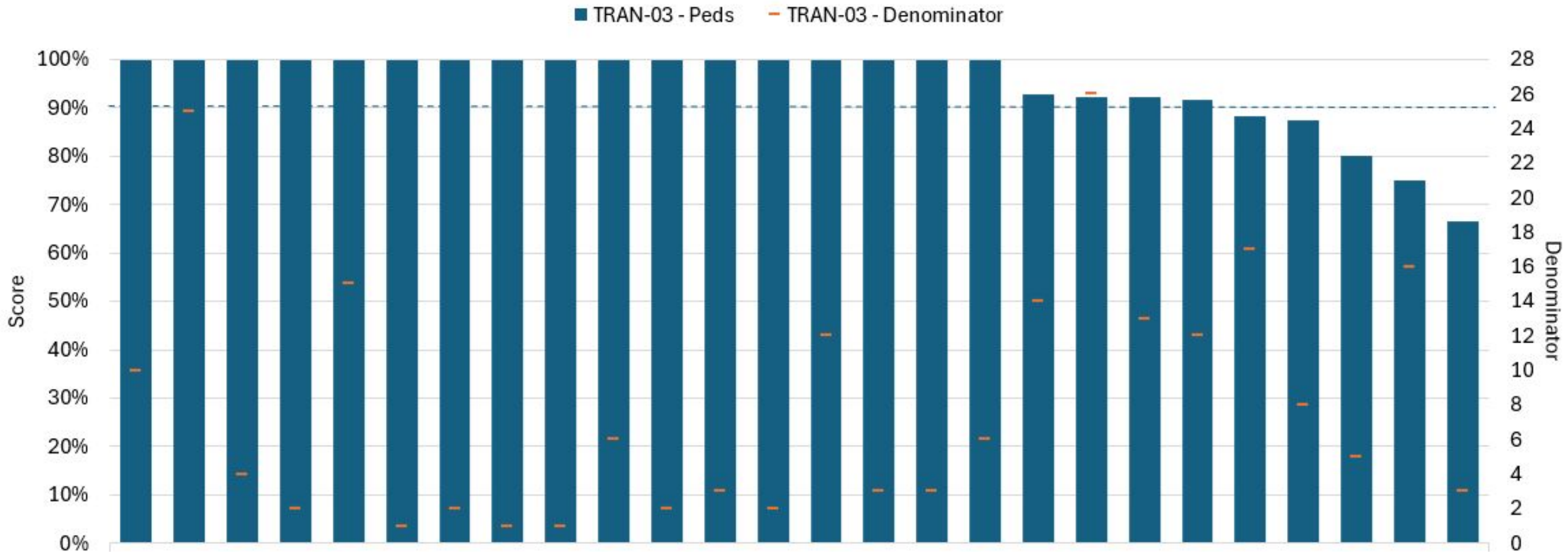
## Toddlers (13-23m)



## Children (2-5y)

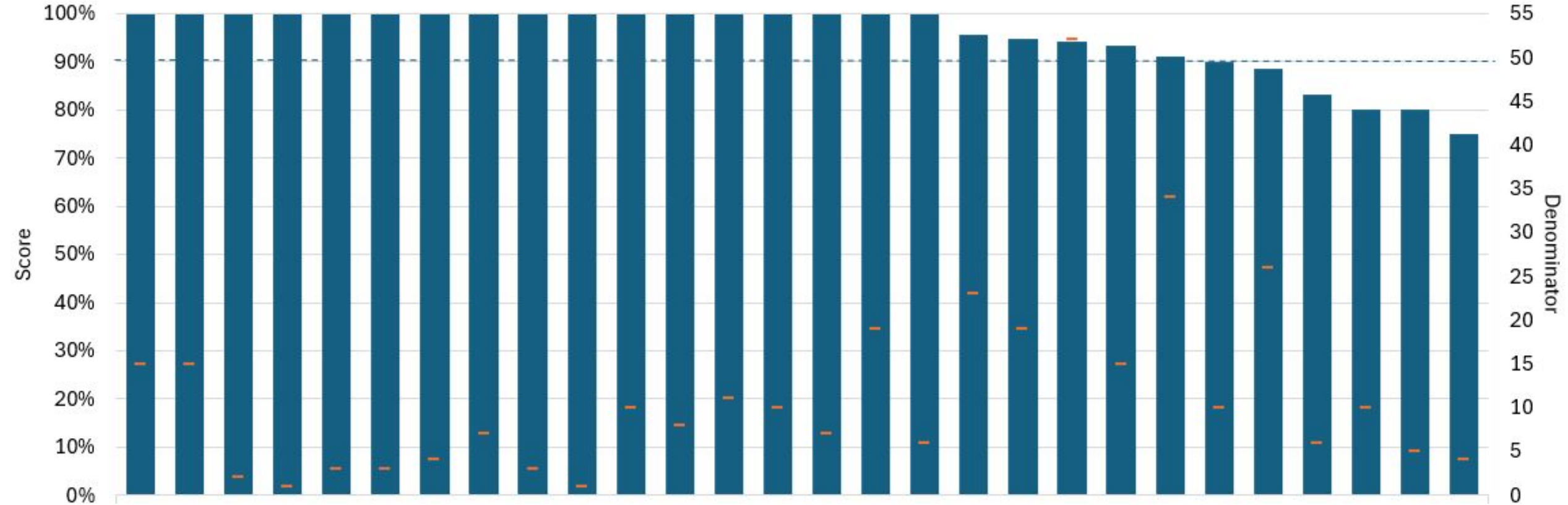


## Children (6-11y)



## Adolescents (12-18y)

■ TRAN-03 - Peds    ■ TRAN-03 - Denominator

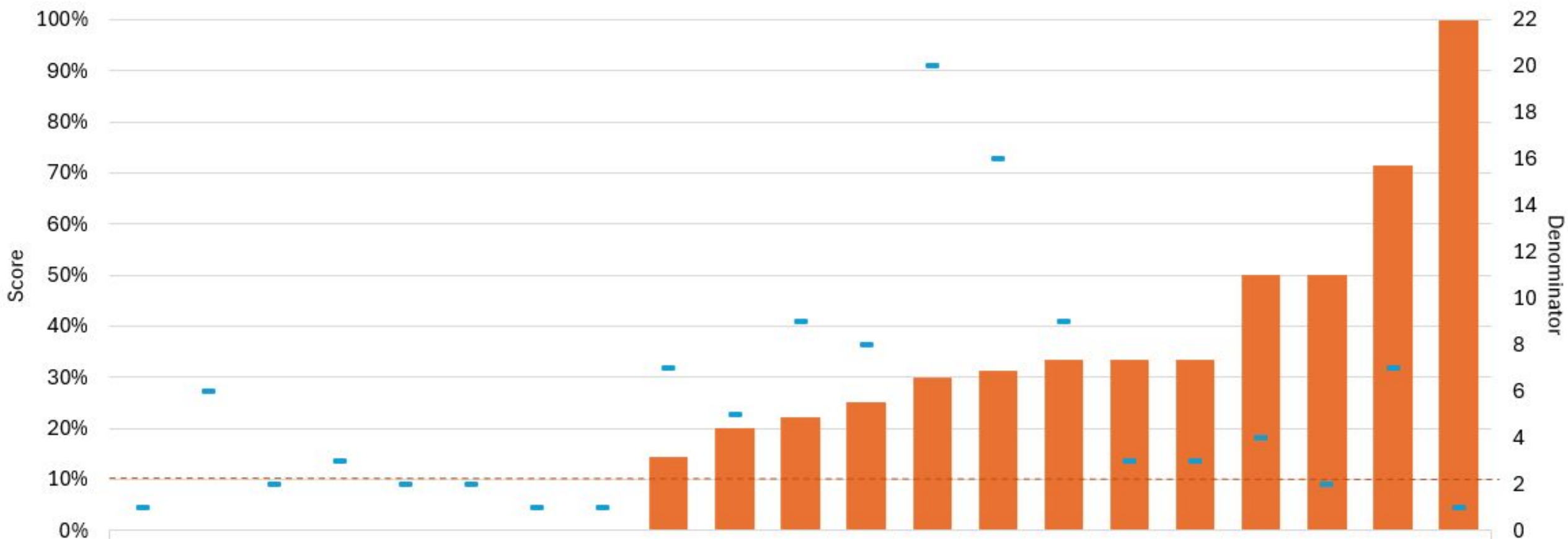


# TRAN-04-Peds

**Overtransfusion:** Percentage of pediatric patients  $\geq 6$  months to 18 years old with a post transfusion hemoglobin or hematocrit value greater than or equal to 10 g/dL or 30%.

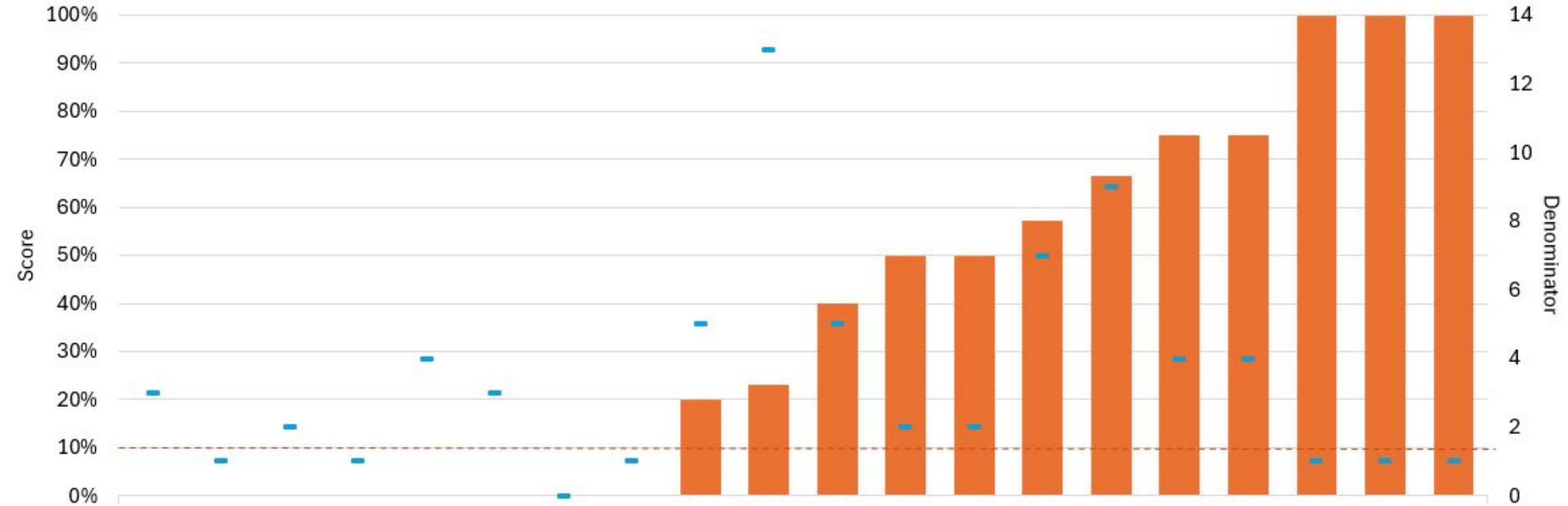
## Infants (6-12m)

TRAN-04 - Peds TRAN-04 - Denominator



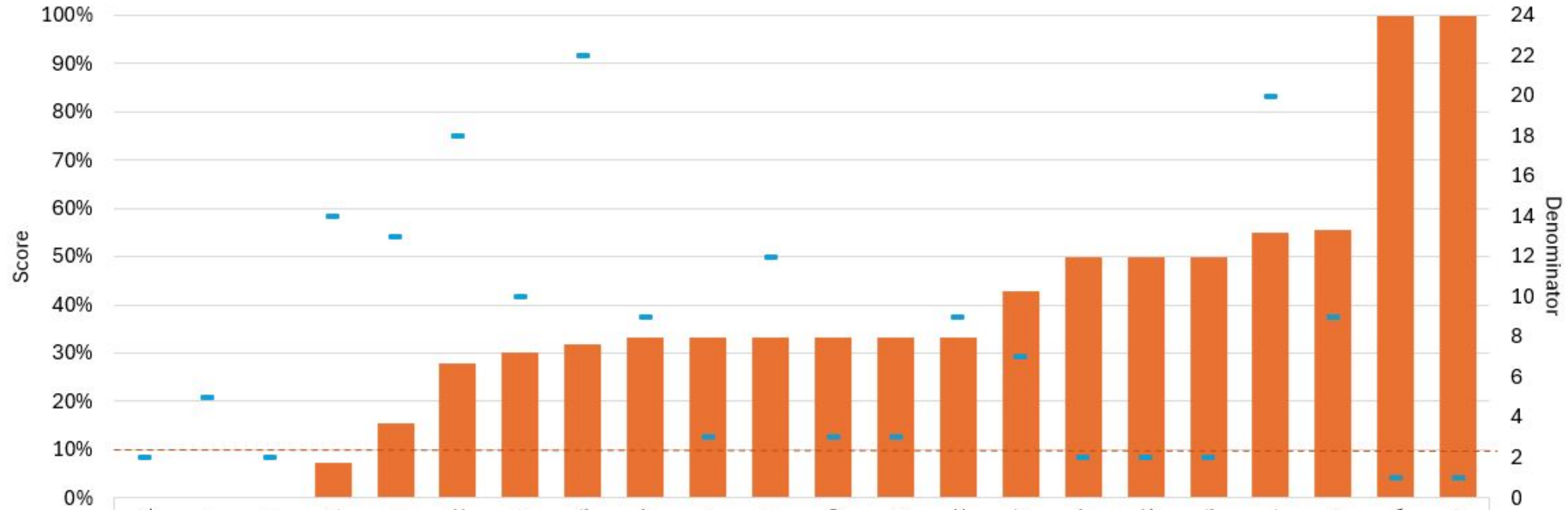
## Toddlers (13-23m)

TRAN-04 - Peds TRAN-04 - Denominator



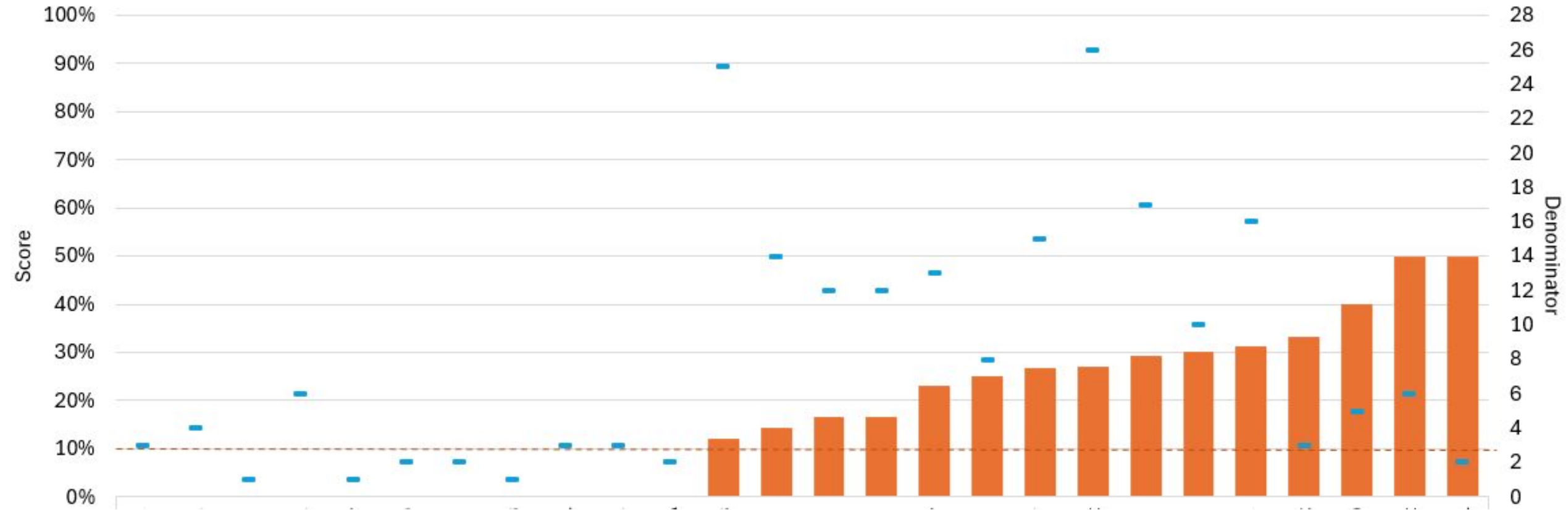
## Children (2-5y)

TRAN-04 - Peds TRAN-04 - Denominator



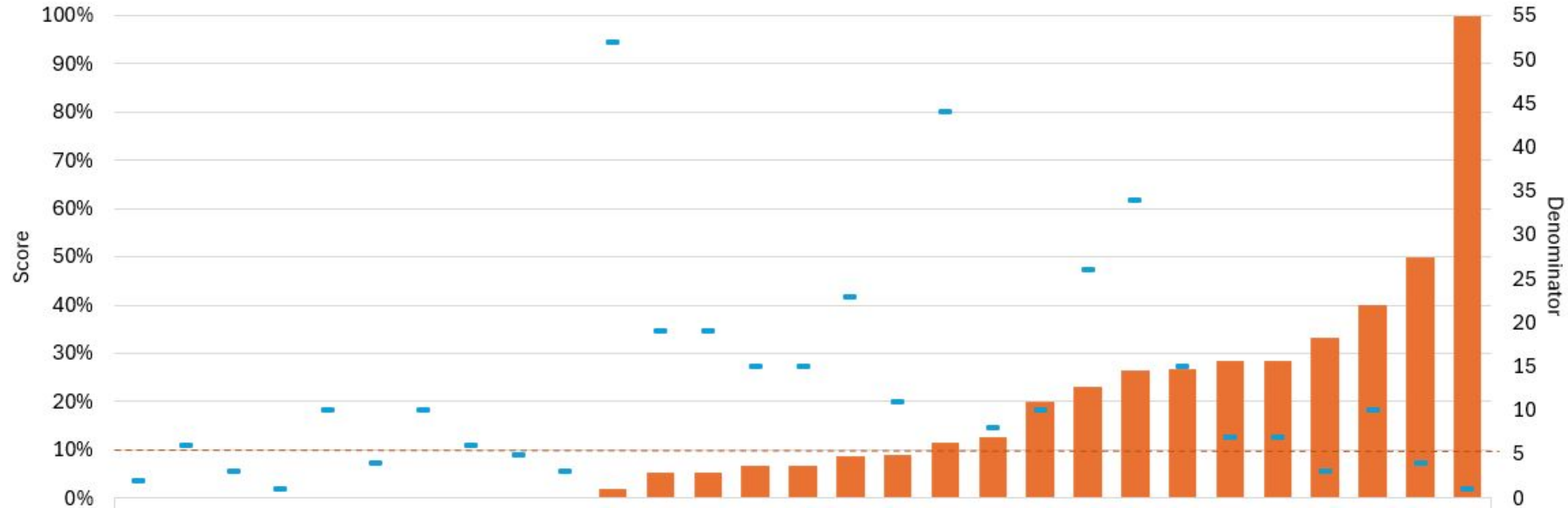
## Children (6-11y)

TRAN-04 - Peds TRAN-04 - Denominator

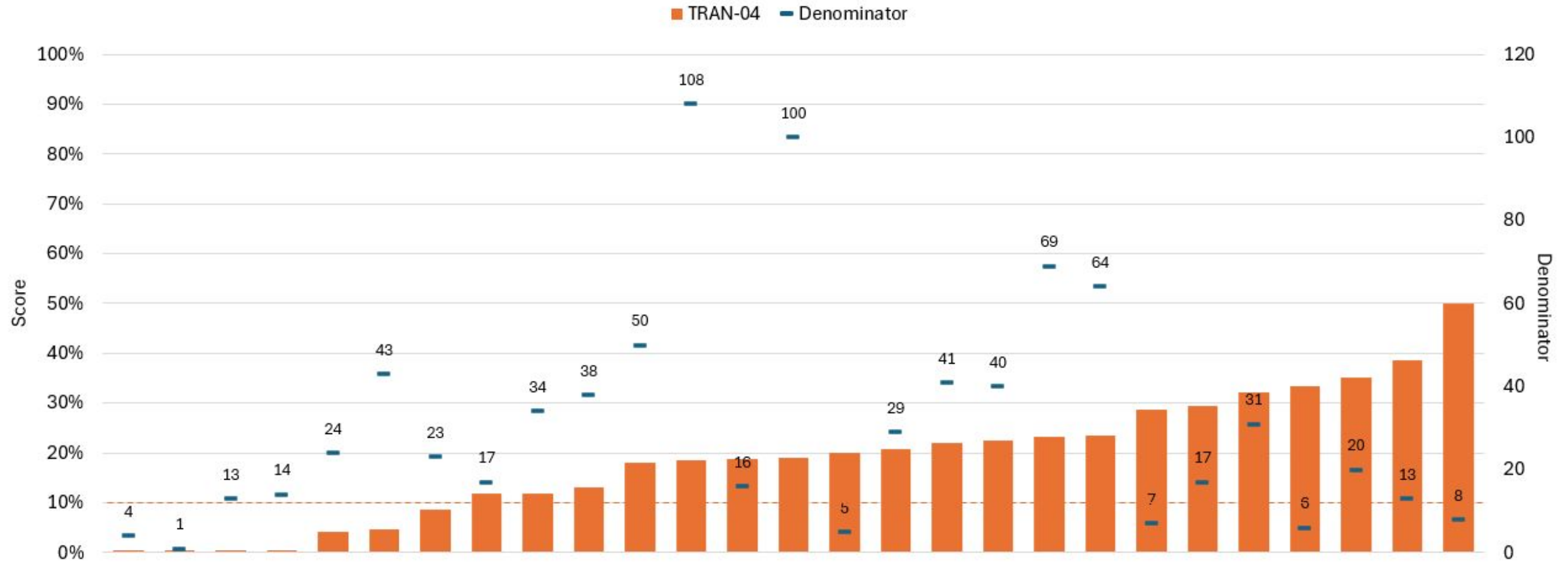


## Adolescents (12-18y)

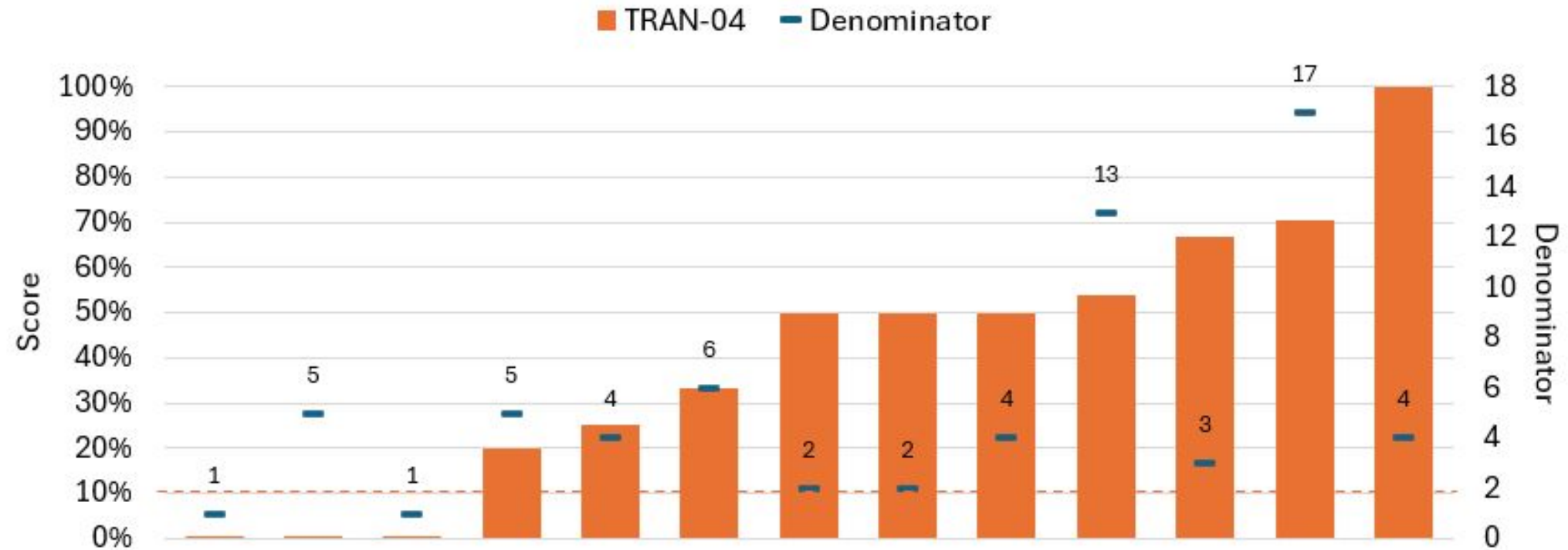
TRAN-04 - Peds TRAN-04 - Denominator



## Non-Cardiac



## Cardiac without CPB

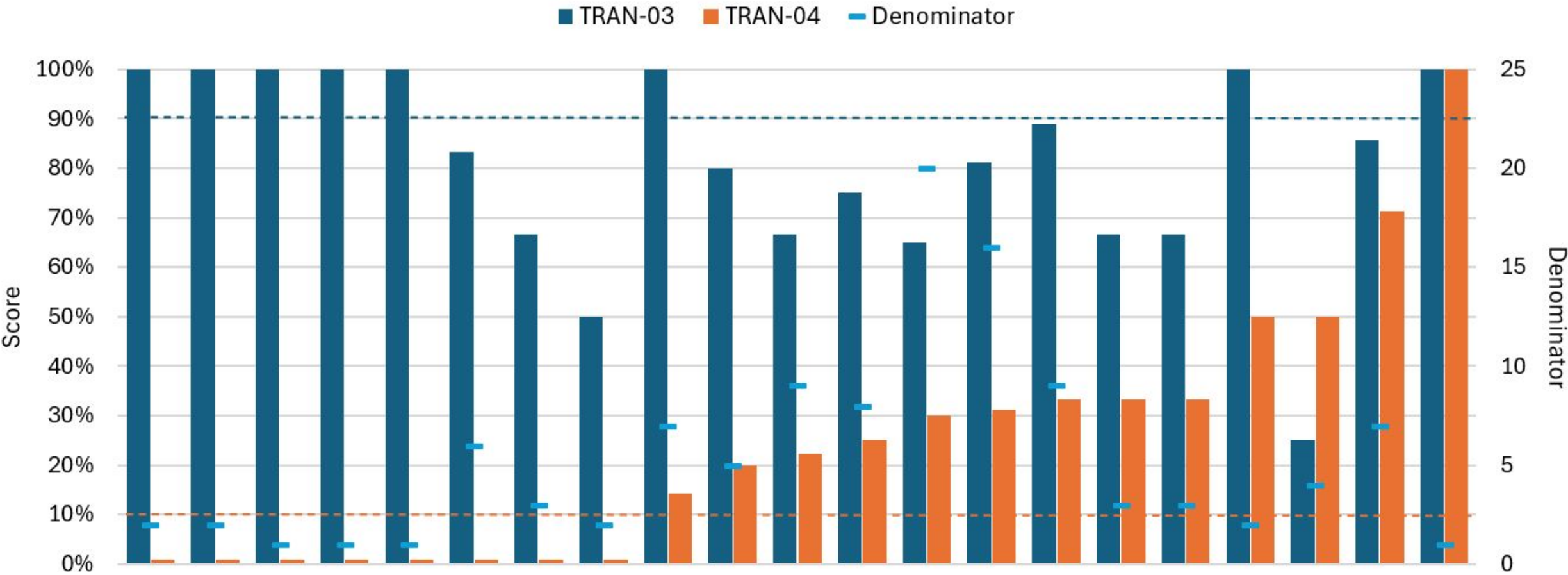


# TRAN-03 vs. TRAN-04

Overtransfusion based on pre-transfusion lab check compliance

# Transfusion Vigilance, Infants (6-12m)

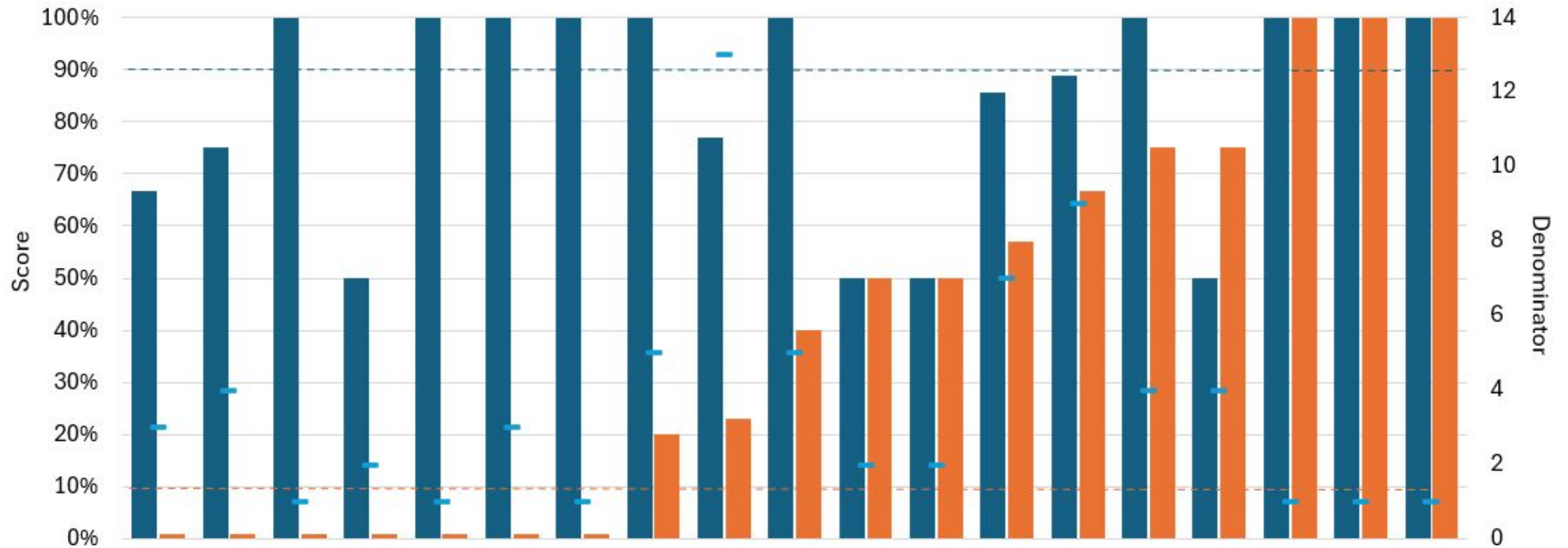
MPOG Pediatric Hospitals, Past 12 months



# Transfusion Vigilance, Toddlers (13-23m)

MPOG Pediatric Hospitals, Past 12 months

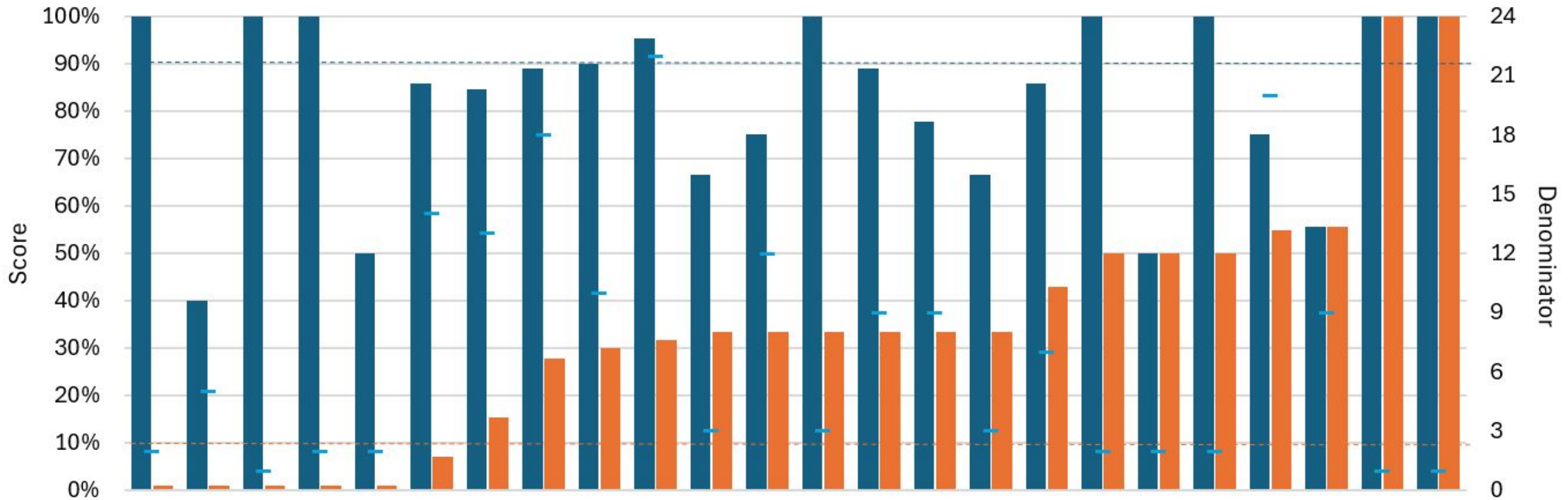
■ TRAN-03 ■ TRAN-04 — Denominator



# Transfusion Vigilance, Children (2-5y)

MPOG Pediatric Hospitals, Past 12 months

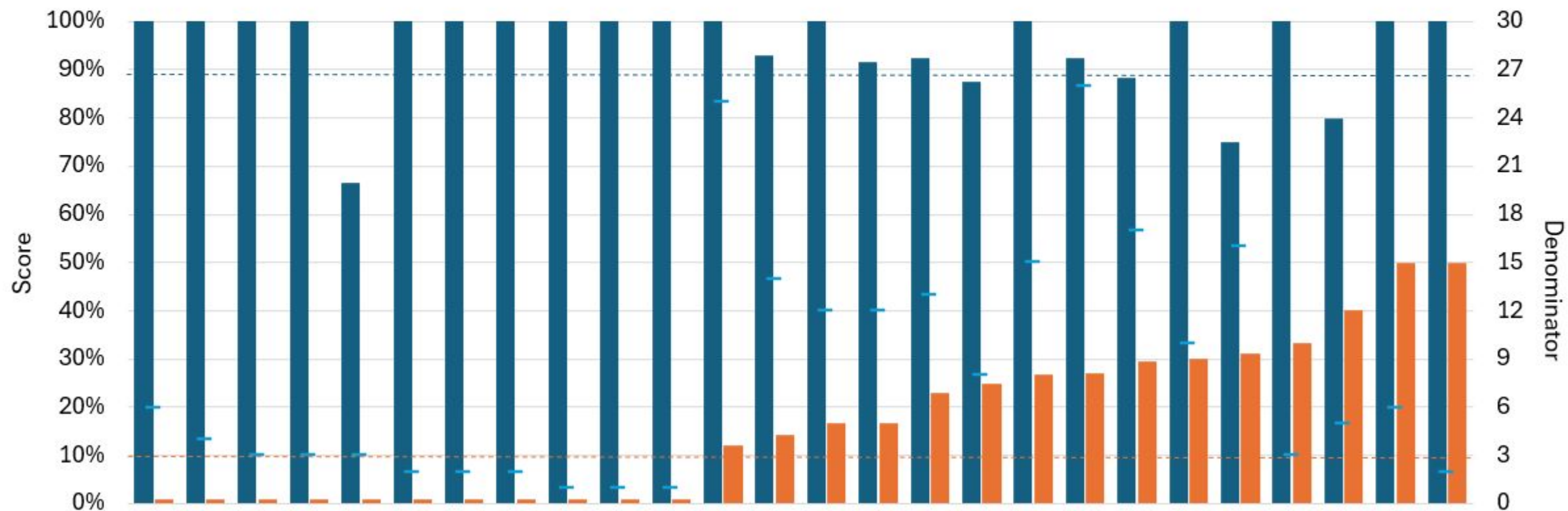
■ TRAN-03 ■ TRAN-04 — Denominator



# Transfusion Vigilance, Children (6-11y)

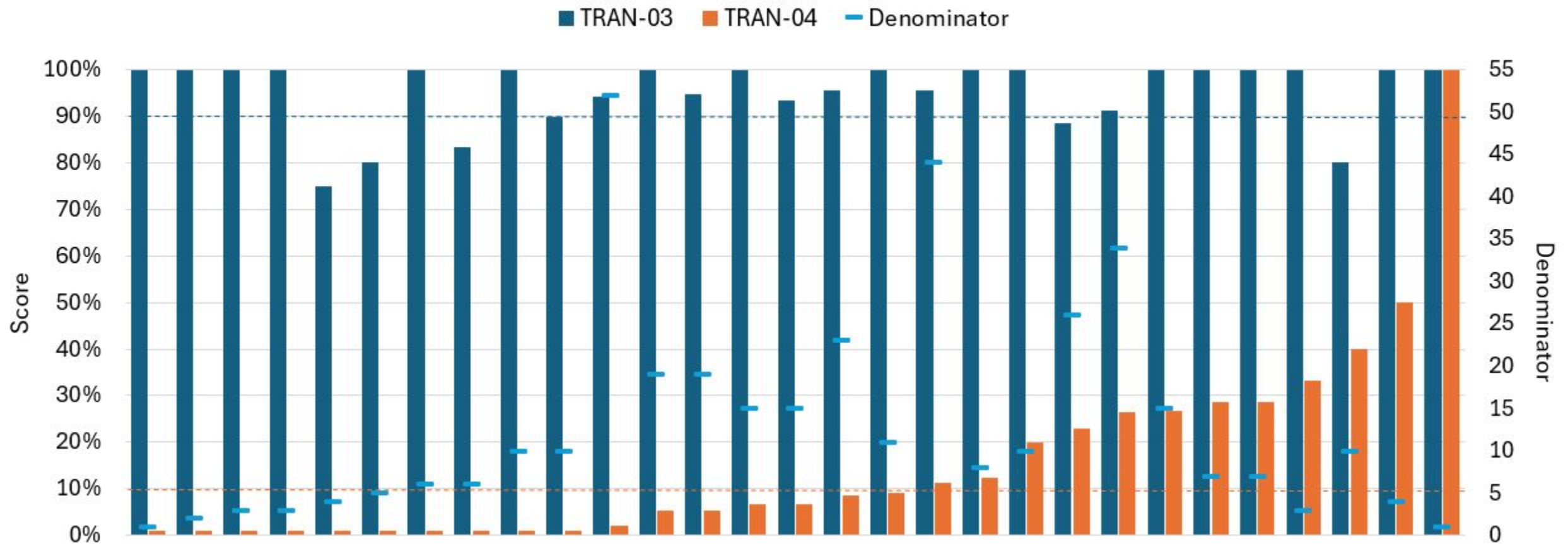
MPOG Pediatric Hospitals, Past 12 months

■ TRAN-03 ■ TRAN-04 — Denominator



# Transfusion Vigilance, Adolescents (12-18y)

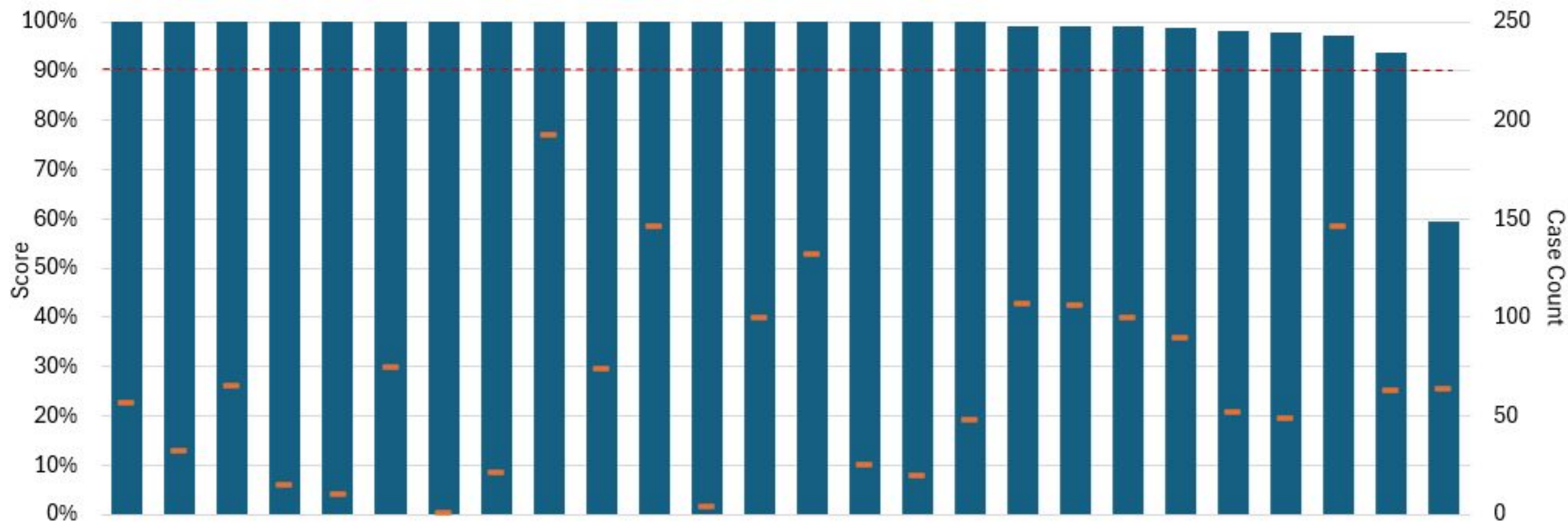
MPOG Pediatric Hospitals, Past 12 months



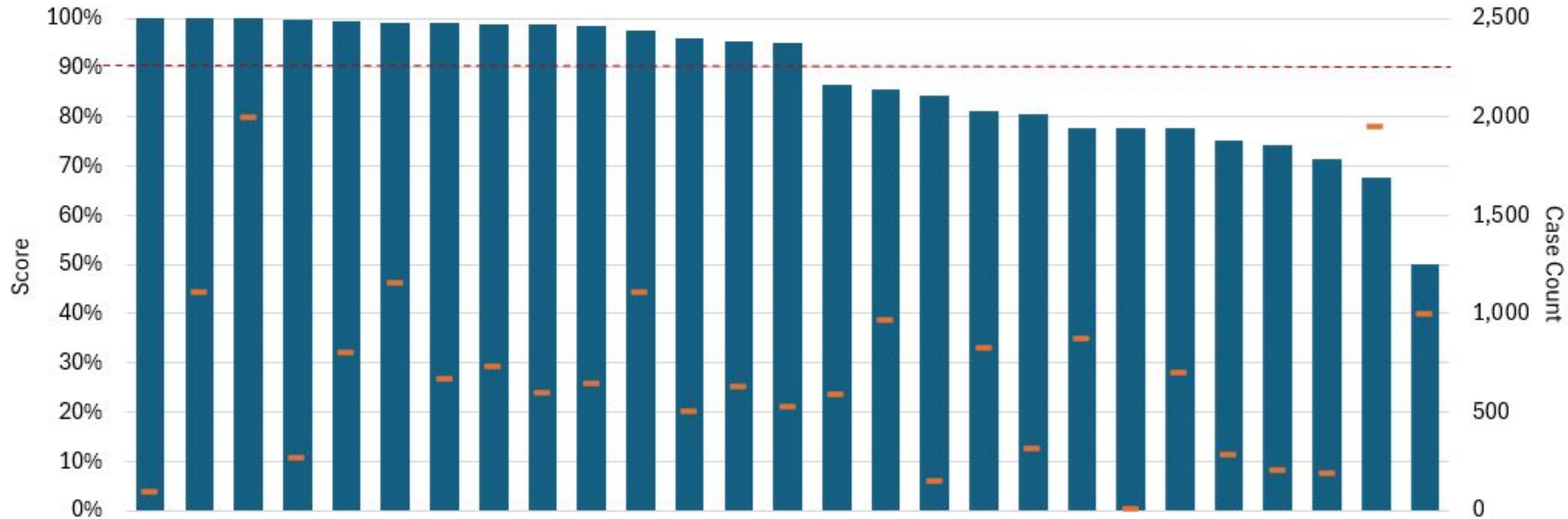
# SUS-05-Peds

Avoiding Nitrous, Induction

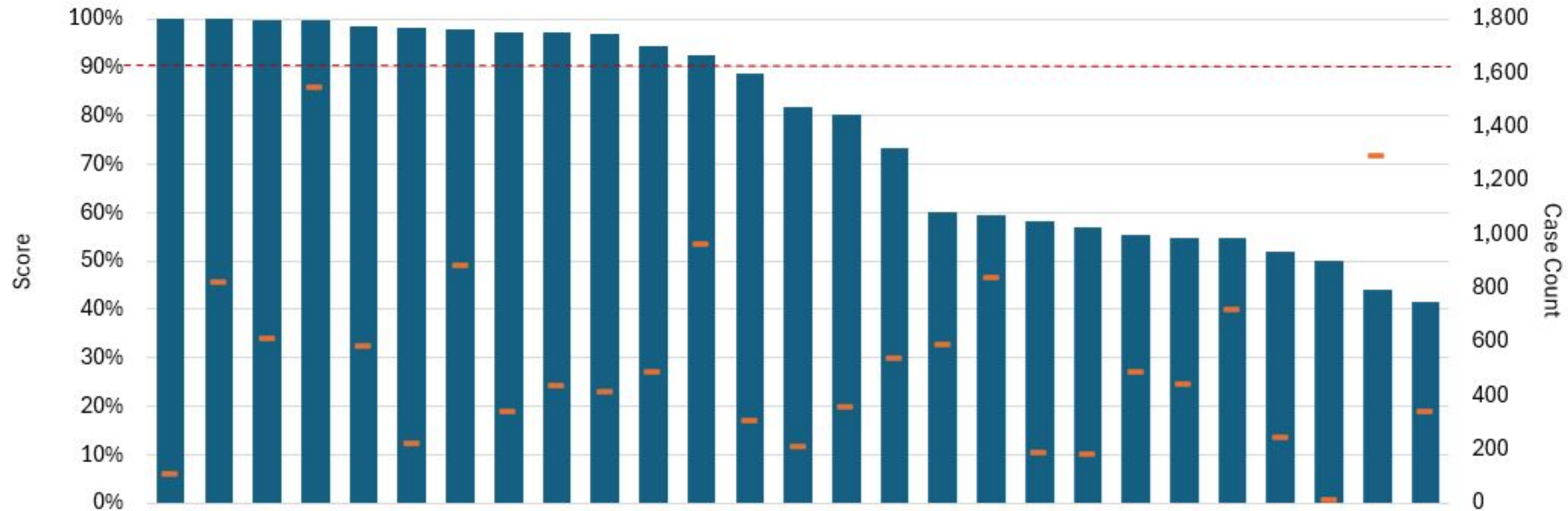
# Neonates



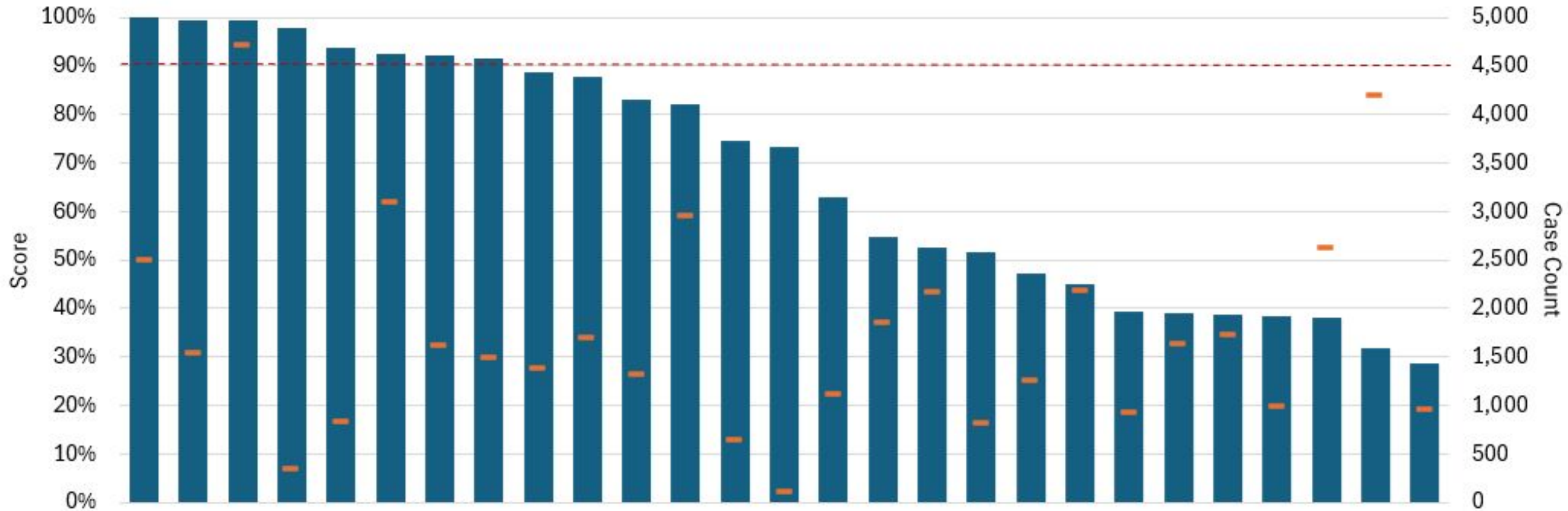
# Infants



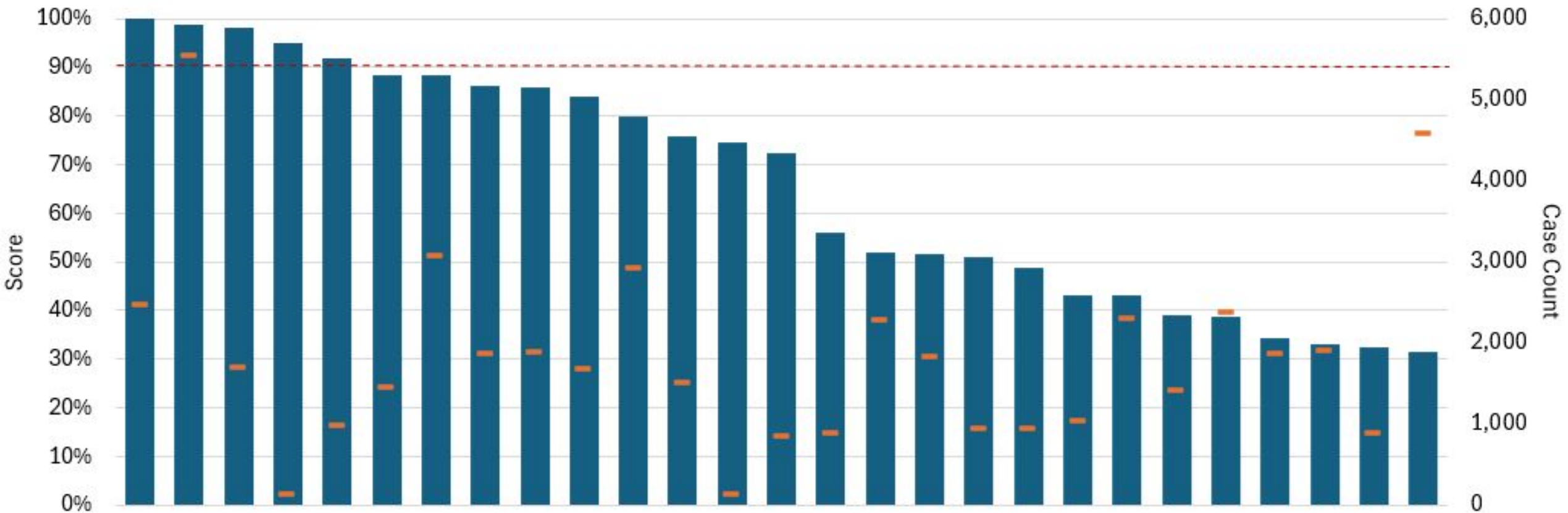
# Toddlers



# Children (2-5y)



# Children (6-11y)



# Adolescents (12-18y)

