



MPOG Pediatric Committee Meeting

November 4, 2024

Agenda

Announcements (10 min)

Measure Review: PONV-04-Peds (15 min)

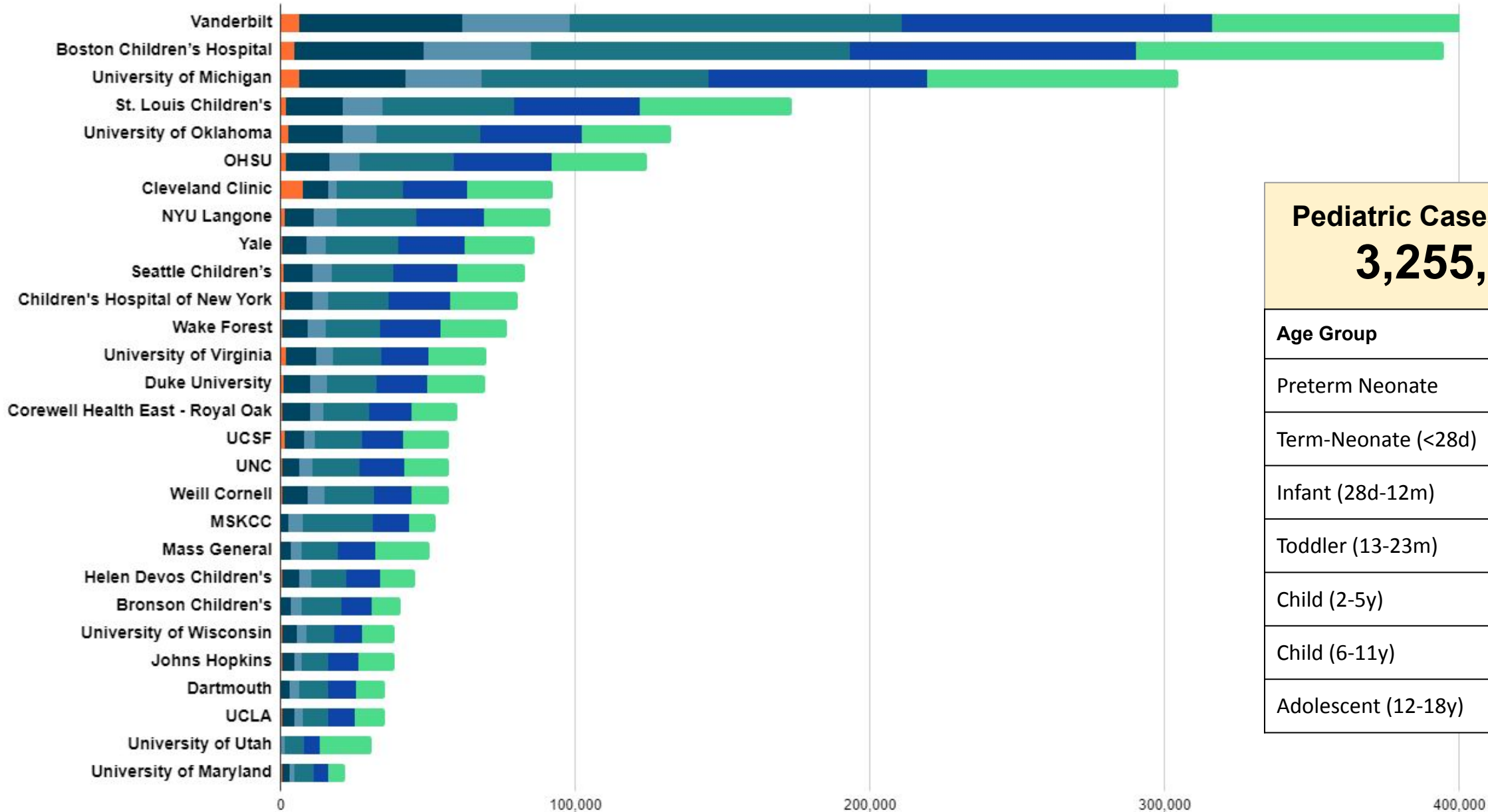
Dr. Meredith Kato, OHSU

Dr. Ben Andrew, Duke

Pediatric Measure Development (35 min)

Pediatric Case Count Across MPOG Institutions

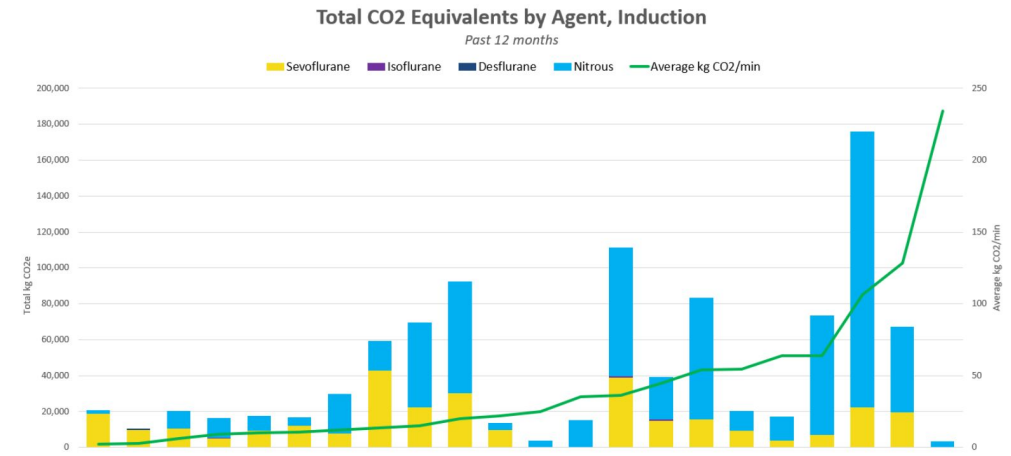
■ Term-Neonate (<28d)
 ■ Infant (28d-12m)
 ■ Toddler (13-23m)
 ■ Child (2-5y)
 ■ Child (6-11y)
 ■ Adolescent (12-18y)



Pediatric Cases in MPOG	
3,255,633	
Age Group	Case Count
Preterm Neonate	8,933
Term-Neonate (<28d)	49,047
Infant (28d-12m)	363,365
Toddler (13-23m)	260,441
Child (2-5y)	862,653
Child (6-11y)	799,901
Adolescent (12-18y)	911,293

Spring Meeting Recap - May 2024

- **QI Story:** Dr. Vikas O'Reilly-Shah discussed how MPOG quality metrics are used at Seattle Children's to provide departmental feedback and promote a non-punitive culture.
- **Unblinded Performance Review:** Dr. Nirav Shah, MPOG QI Director, presented data on pediatric sustainability and quantitative monitoring measures, highlighting variability in performance across institutions.



MPOG Pediatric Research Update

Next PCRC Meeting November 11th @ 10am ET

- **PCRC 257:** Neonatal airway management practices: An analysis from the Multicenter Perioperative Outcomes Group
 - Mary Lynn Stein, Sharon Reale, Hanna Van Pelt, Annery Garcia Marcinkiewicz, Wes Templeton, John Fiadjoe, Pete Kovatsis

Recently Presented and Approved

- **PCRC 254 (O'Reilly-Shah):** Pediatric Hemodynamic Management in Anesthesia: A multicenter analysis using MPOG to assess variation in vasopressor and colloid administration during pediatric major non-cardiac surgery
- **PCRC 192 (Pryor):** Reference values for post-induction hemodynamic measures in pediatric patients undergoing general anesthesia for non-cardiac procedures

Upcoming Meetings

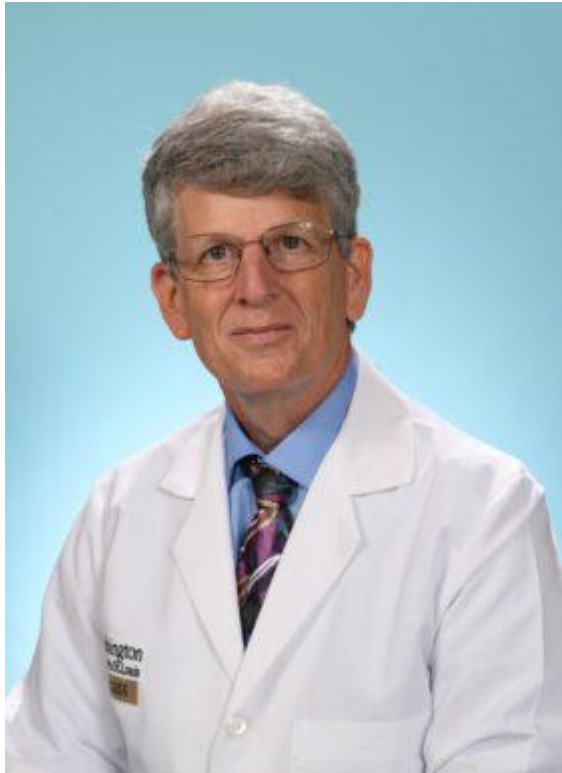
2025 Pediatric Committee Meetings

- February
- June
- November



2025 QI Measure Reviews

NMB Initial Dosing



Dr. Chuck Schrock
St. Louis Children's

Transfusion Vigilance Overtransfusion

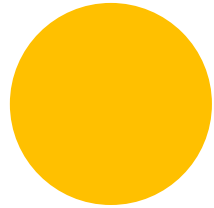
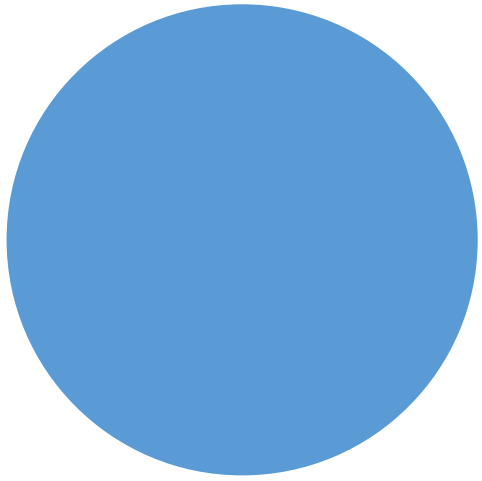


Dr. Jeana Havidich
Vanderbilt

Avoiding Nitrous, Induction



Dr. Brady Still
University of Chicago



Measure Review: PONV-04-Peds

Dr. Ben Andrew (Duke)
Dr. Meredith Kato (OHSU)



Pediatric POV/PONV Management R_x



Preoperative

- Age \geq 3 years
- History of POV/PONV/motion sickness
- Family history of POV/PONV
- Post-pubertal female



Intraoperative

- Strabismus surgery
- Adenotonsillectomy
- Otoplasty
- Surgery \geq 30 mins
- Volatile anesthetics
- Anticholinesterases

1 RISK FACTORS

Postoperative

- Long-acting opioids



2 RISK STRATIFICATION

**Consider multimodal analgesia to minimize opioid use*

No Risk Factors

LOW RISK

1-2 Risk Factors

MEDIUM RISK

\geq 3 Risk Factors

HIGH RISK

3 PROPHYLAXIS

LOW RISK

None or 5HT3 antagonist or dexamethasone

MEDIUM RISK

5HT3 antagonist + dexamethasone

HIGH RISK

5HT3 antagonist + dexamethasone + consider TIVA

4 RESCUE TREATMENT

Use anti-emetic from different class than prophylactic drug - droperidol, promethazine, dimenhydrinate, metoclopramide; May also consider acupuncture/acupressure



Measure Time Period

4 hours before [Anesthesia Start](#) to [PACU Start](#)

Inclusions

Pediatric patients ≥ 3 and < 18 years old who have one or

- [Age](#) ≥ 3 years
- Females ≥ 12 years of age
- [Hx PONV](#) in patient, parent or sibling
- Surgery at Risk
 - [Procedure Type: Strabismus](#)
 - [Procedure Type: Adenotonsillectomy](#)
 - [Procedure Type: Tympanoplasty](#)
- [Inhaled Anesthetic Duration](#) ≥ 30 minutes
- Administration of long acting opioids **See Other Me*

Exclusions

- [Age](#) < 3 or ≥ 18 years
- ASA 5 or 6 including Organ Procurement (CPT: 01990)
- MAC cases (determined by [Anesthesia Technique: General](#) value codes: 0,4,5)
- Patients transferred directly to the ICU
- Procedure Types:
 - Labor Epidurals (determined by [Obstetric Anesthesia Type](#) value codes: 3 & 6 including obstetric non-operative procedures - CPT: 01958)
 - Procedures completed in a room with location tag 'Radiation Oncology'
 - [MRI](#) without additional procedures
 - [ECT](#)

Success Criteria

- Patients at **low risk** for PONV (0 Risk Factors) receive at least one prophylactic pharmacologic antiemetic.
- Patients at **moderate risk** for PONV (2 Risk Factors) receive combination therapy consisting of at least two prophylactic pharmacologic antiemetic agents from different classes.
- Patients at **high risk** for PONV (> 2 Risk Factors) receive three prophylactic pharmacologic antiemetic agents from different classes

Value	Value Code	Definition
Invalid Value	-998	The case is missing either Anesthesia Start or Anesthesia End
No	0	No general, ETT, or LMA note and no sedative medications or inhaled anesthetics or paralytics associated with the case.
General - both ETT and LMA	1	There were ETT and LMA notes associated with this case.
General - ETT	2	There was at least one ETT note, with another general or ETT note associated with this case. There were no LMA notes.
General - LMA	3	There was at least one LMA note, There were no ETT notes.
General - Inhaled Anesthetic Only	4	There were inhaled anesthetics associated with this case. There were no ETT or LMA notes.
General - Neuromuscular Blocker Only	5	There were neuromuscular blockers associated with this case. There were no ETT or LMA notes.
General - Unknown	6	There were both neuromuscular blockers and inhaled anesthetics associated with this case along with ambiguous general airway notes



Summary of Proposed Modifications

Inclusion Criteria: All patients \geq ~~3 years~~ 28 days and $<$ 18 years old

Exclusion Criteria:

- MAC Cases \rightarrow use Anesthesia Technique: ~~General~~ Sedation phenotype
- MRI Cases without an Airway

Success Criteria:

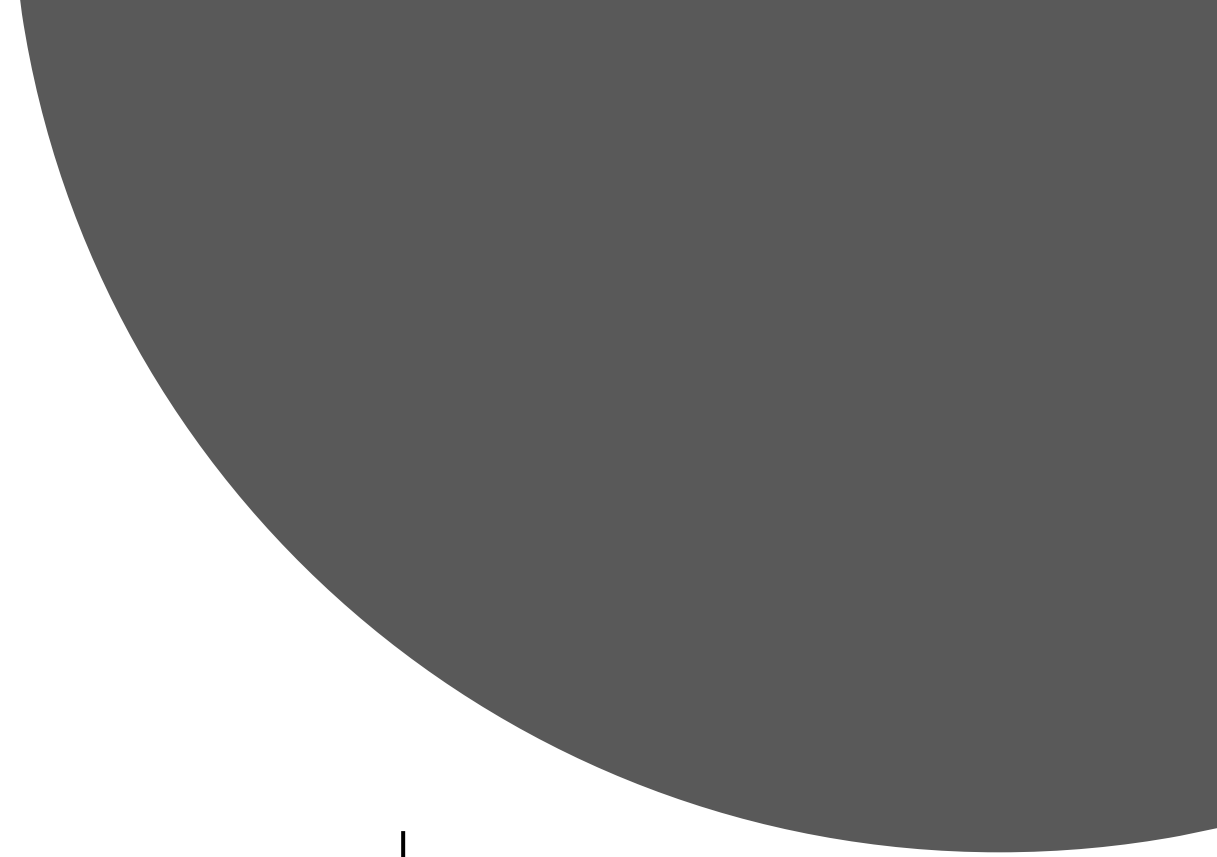
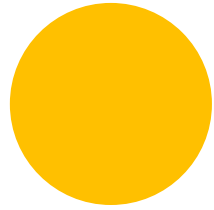
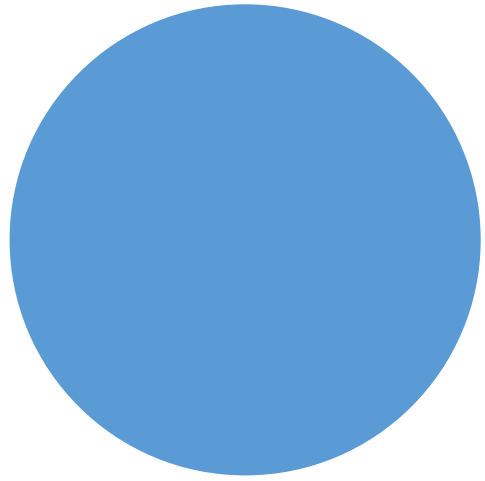
- Patients at low risk for PONV (0 Risk Factors) receive at least one prophylactic pharmacologic antiemetic.
- Patients at moderate - high risk for PONV (\geq 1 Risk Factor) receive combination therapy consisting of at least two antiemetics from different classes.

Risk Factor Definition

- Broaden opioid list and define by $>$ 1 dose administered between induction and PACU end

Antiemetic List

- Add Hydrocortisone via IV route



Pediatric Measure Build Discussion



Current Measures Specific to Pediatrics



FLUID-02 Minimizing Colloid Use



NMB-03 Avoidance of NMB Overdose, Infants



PAIN-01 Multimodal Analgesia
OME Oral Morphine Equivalents: *T&A, Spine, Cardiac*



PONV-04 PONV Prophylaxis, *2020 Guidelines*



TEMP-04 Intraoperative Normothermia



TRAN-03 Transfusion Vigilance
TRAN-04 Overtransfusion



SUS-05 Nitrous use during Induction
SUS-06 Minimizing Fresh Gas Flow, Induction

How do we
build
measures?

Idea

Discussion with Pediatric Subcommittee

Create Specification

Approval

Build

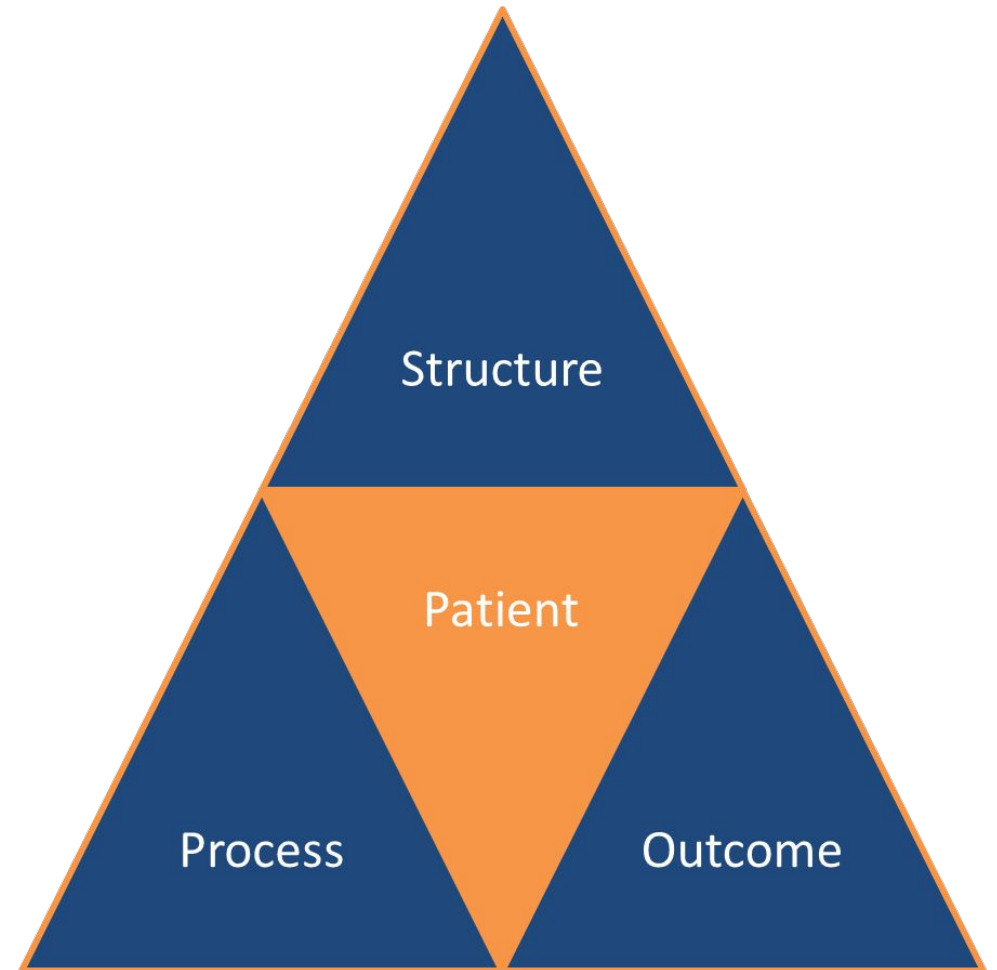
Test and Refine

Publish

Use!

Measure Categories

- **Process** - transactions between patients and providers throughout the delivery of healthcare
- **Outcomes** - the effects of healthcare on the health status of patients
- **Structure** - the context in which care is delivered, including hospital buildings, staff, financing, and equipment



Where do we go next?

- New Domain of Care?
- Structure/Operation/Cost metrics?
- What are the voids MPOG can help fill?

Setting a universal standard: Should we benchmark quality outcomes for pediatric anesthesia care?

Dimensions	Suggested measures
Safety	<p>Intraoperative cardiac arrest.</p> <p>Unplanned tracheal reintubation within 24 h of anesthesia.</p> <p>Unplanned intensive care unit (ICU) admission within 24 h of anesthesia.</p> <p>Unplanned hospital readmission for outpatient surgery.</p> <p>Activation of rapid response team within 24 h of anesthesia.</p> <p>Death within 72 h of anesthesia.</p> <p>Medication error.</p>
Effectiveness	<p>Length of postoperative tracheal intubation (cardiac surgery, neonates).</p> <p>Length of postanesthesia care unit stay ≥ 120 min.</p> <p>Prolonged untreated or undertreated pain as indicated by high postoperative pain scores.</p> <p>Postoperative nausea or vomiting requiring rescue therapy.</p> <p>Failed regional anesthetic technique.</p>
Efficiency	<p>On time 1st case starts in the operating room.</p> <p>Surgery start delay ≥ 60 min.</p> <p>Time from end of surgery to tracheal extubation.</p> <p>Operating room turnover time classified as time patient leaves the room to start of the next scheduled case.</p> <p>Same day case cancellation.</p>
Equity	<p>Consistent outcomes regardless of race, ethnicity, gender, socioeconomic status, etc.</p> <p>Equal adherence to standardized protocols between groups</p>
Timeliness	<p>Percent of emergent cases arriving to the OR from the ER within 60 min.</p>
Patient-Centeredness	<p>Patient satisfaction survey scores.</p> <p>Postoperative satisfaction surveys.</p>

DATA RELIABILITY

**High Reliability
Low Effort**

- *PACU Duration > 120 minutes*
- *Antibiotic Choice and Timing*

**High Reliability
High Effort**

**Low Reliability
Low Effort**

- *Postoperative Pain: PACU Pain Scores*

**Low Reliability
High Effort**

- *Intraoperative Cardiac Arrest*

DEV EFFORT

SAFETY

- Intraoperative Cardiac Arrest
- Unplanned reintubation within 24hrs
- Unplanned ICU admission within 24hrs
- Unplanned Hospital readmission for outpatient surgery
- Activation of rapid response team within 24hrs
- Death within 72hrs of anesthesia
- Medication Error

EFFECTIVENESS

- PACU length of stay \geq 120 min
- PONV requiring rescue antiemetic
- Failed Regional anesthetic
- Duration of postop intubation (up to 6 hours after anes end)

EFFICIENCY

- % On time 1st case starts
- Delayed case start \geq 60 min
- Emergence Duration: Surgery end --> extubation?
- OR turnover time
- % Same day case cancellation

EQUITY

Consistent outcomes regardless of

- Race
- Ethnicity
- Gender
- Socioeconomic status
- Language of Care

TIMELINESS

- % Emergent cases arriving to OR within 60 min

PATIENT-CENTERED

- Patient Satisfaction survey scores (*via MPOG's survey app - MQUARK*)

MPOG Retreat - Pedi Interest Group Meeting Recap

Attendees: *Lucy Everett (MGH), Ruchika Sharma (UVA), Susan Vishneski (Wake Forest), Cathie Jones (Boston Children's), Joe Cravero (Boston Children's), Ahmar Husain (Phoenix Children's)*

Discussed potential metrics of interest and MPOG's role in creating a standardized set of safety/quality outcomes measures for the pediatric perioperative space

- Discharge Readiness
- Antibiotic Appropriateness
- % of patients with a pain rating > ____ in PACU
- PACU LOS > _____ hours
- Focus on specific procedure types (e.g Tonsils, Spine)
- Peds Cardiac Measures (Morgan Brown)

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

Please contact Meridith if interested:

Meridith Wade, MSN, RN
Pediatric Program Manager | MPOG
meridith@med.umich.edu



A dark blue, irregularly shaped graphic with a splatter effect, containing the text "Thank You!" in white. The graphic has a rough, hand-painted appearance with various shades of blue and white splatters around its edges. The text is centered within the dark blue area.

Thank You!