Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subcommittee Meeting Minutes – December 4, 2023

Attendance:

Morgan Brown, Boston Children's	*Kesavan Sadacharam, Nemours*
Lauren Madoff, Boston Children's	*Amber Franz, Seattle Children's*
Viviane Nasr, Boston Children's	*Vikas O'Reilly-Shah, Seattle Children's*
Ryan Bradstreet, Bronson	*Marla Ferschl, UCSF*
Eduardo Goenaga Diaz, CHOP	*Ellen Choi, University of Chicago*
Lindsey Weidmann, CHOP	*Anna Clebone, University of Chicago*
Albert Lin, Columbia University	*Staphanie Kahntroff, University of Maryland*
Kaveh Aslani, Corewell Health East	*Kim Taylor, University of Michigan*
Kelly Everhart, Dartmouth	*Lisa Vitale, University of Michigan*
Ben Andrew, Duke	*Ruchika Sharma, University of Virginia*
Lisa Einhorn, Duke	*Eva Lu-Boettcher, University of Wisconsin*
Brad Taicher, Duke	*Wes Templeton, Wake Forest*
Peggy Vogt, Emory University	*Chuck Schrock, St. Louis Children's*
Jurgen de Graaff, Erasmus MC (Netherlands)	*David Waisel, Yale*
Rahul Koka, Johns Hopkins	*Lucy Everett, Mass General*
Mo Esfahanian, Lucile Packard Children's	*RJ Ramamurthi, Lucile Packard Children's*
Meridith Wade, MPOG	*Nirav Shah, MPOG*
Diana O'Dell, MPOG	*Sandy Rozek, MPOG*
Henrietta Addo, MPOG	*Frances Guida Smiatacz, MPOG*
Nicole Barrios, MPOG	*Rebecca Pantis, MPOG*
Kate Buehler, MPOG	*Yuan Yuan, MPOG*
Robert Coleman, MPOG	*Sarah Zhao, MPOG*
Sachin Kheterpal, MPOG	*Graciela Mentz, MPOG*
Tiffany Malenfant, MPOG	*Peter Bow, MPOG*
Mike Mathis, MPOG	*Tony Edelman, MPOG*

Start: 1502

Minutes from June 26, 2023 meeting approved - minutes and recording posted on the MPOG website for review

Announcements

- 2024 Meetings
  - Pediatric Subcommittee Meetings – March, July, December *(virtual)*
  - MPOG Updates at SPA Q&S – April and October *(hybrid)*
  - MPOG Annual Retreat 2024 – October 18th *(hybrid)*
- Pediatric Subcommittee Leadership
  - MPOG is pleased to announce Drs. Vikas O'Reilly-Shah (Seattle Children's) and Morgan Brown (Boston Children's) as the new pediatric subcommittee leadership team.

- Thank you to Dr. Brad Taicher for your many contributions over the past few years and for your continued participation as a member of the MPOG pediatric subcommittee!

- Membership Update
  - 28 Pediatric Hospitals
  - Welcome to our newest site - Johns Hopkins!
  - Onboarding In Progress
    - Indiana University Health, Riley Children's Hospital
    - Lucile Packard Children's
- Measure Updates
  - NMB-04: Variation in Sugammadex Dosing
    - Description: Percentage of cases with sugammadex administration that had a cumulative dose ≤ 200mg OR ≤ 3mg/kg.
    - Background:
      - Measure proposed by Dr. Megan Anders (Univ. Maryland). Strategies for cost-containment are an area of interest.
      - A timely measure – groups may be engaging in discussion of loosening formulary restrictions given ASA guideline
    - Limitations:
      - Pediatric dosing (allows high dosing for peds)
      - Measure may become obsolete when sugammadex comes off patent (January 2026)
      - May incentivize underdosing
      - Focus on vial vs mg/kg dosing
    - **See slides for anonymized benchmark performance of NMB-04 for pediatrics*
    - *Discussion:*
      - *Morgan Brown (Boston Children's Hospital):* There is a 5 mg vial available. We don't have it now, but it does exist.
        - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* If you are a center that stores 500 in your OR, this measure will not adequately reflect your vial usage since this is a cost-effectiveness measure focused on use of the 200mg vial.
      - *Mo Esfahanian (Lucile Packard Children's via chat): M*aybe I missed this, but what about our adolescent bariatric patients? they're frequently over 100kg in weight
        - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* Do we really need a deep blockade? 150 kg patient, this won't appropriately reflect. NMB-05 reflects quantitative twitch monitoring. T4-T1 ratio of 100%. Goal to try to be cost effective with meds on the lower end of cost. Bonus or incentive pay may be driven by metrics at your institutions.
      - *Ruchik Sharma (University of Virginia):* None of the metrics are punitive!
  - NMB-05: Quantitative NMB Monitoring *(Coming Soon)*
    - Description: Percentage of cases with documentation of train-of-four count or ratio provided by a quantitative monitor
    - Considers acceleromyography, electromyography, kinemyography and mechanomyography.

        - Success Criteria: Documentation of train-of-four count or ratio provided by a quantitative monitor between patient in room and patient out of room.
        - All MPOG institutions currently contributing subjective train of four data while only half of contribute data from quantitative NMB monitoring.
- QI Dashboard Updates
    - New Demographics filter with multiselect options
    - Provider page now links directly to case list for that specific provider
    - Easily enables navigation to MPOG case viewer with measure details for providers to review their performance
    - New provider specific measure summary page coming soon. **See slides for mock-up images*
- MPOG Pediatric Cardiac Workgroup
    - MPOG formed an adult cardiac subcommittee and has built a number of cardiac specific QI measures.
    - Current cardiac procedure phenotype does not accurately categorize all peds cases
    - Proposal: Form a pediatric cardiac workgroup to
        - Define a cardiac phenotype specific to congenital cardiac procedures
        - Build QI process and outcome measures
        - Increase multicenter research with MPOG platform
        - Future CCAS-STS/MPOG data merge
        - First Interest Meeting: February 2024
- **DISCUSSION**:
    - If Interested in the peds cardiac workgroup please fill out this form: https://umich.qualtrics.com/jfe/form/SV_3DzhM5tU6mSZROK

Measure Review: PAIN-01-Peds, Dr. Lisa Einhorn (Duke University)

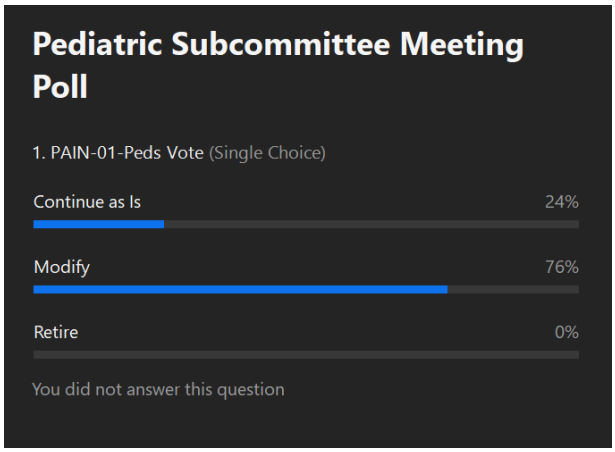
- *Lisa Einhorn (Duke Children's) presented findings after reviewing PAIN-01-Peds: See presentation posted to website.*

- **DISCUSSION:**
    - *Morgan Brown (Boston Children's Hospital via chat):* We may want to look at the open cardiac phenotype for cardiac before you add it. We have some things to clean up.
        - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* Wouldn't stop this for the cardiac phenotype to be built. Once it's built we can make the decision whether to add the phenotype or not.
    - *Amber Franz (Seattle Children's):* Are we able to measure if surgeons inject local? Does that count as multimodal?
        - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* Yes – we can and it does count at multimodal analgesia for this measure.
    - *Vikas O'Reilly-Shah (MPOG Pediatric Subcommittee Vice-Chair, Seattle Children's):* If case doesn't include any analgesia at all then it will likely fall under one of these (already excluded) procedure categories
        - *Lisa Einhorn (Duke University):* Goal was to capture as many of those cases as possible. As we look at the data, half the patients being flagged are cases where pain would not expect and therefore additional analgesia is not needed.

- *Vikas O'Reilly-Shah (MPOG Pediatric Subcommittee Vice-Chair, Seattle Children's):* Do we need an explicit reason for exclusion, or can we simply identify and exclude cases with no analgesia administered?
- *Nirav Shah (MPOG Quality Director):* This idea of excluding cases with no opioid administered is a very elegant solution to a problem we have been trying to solve on the adult side and on the pediatric side where it is almost impossible to have an exhaustive list of procedures we want to exclude. This relies more on clinician judgement whether the patient is a candidate for multimodal analgesia or not. We routinely get feedback to exclude specific procedures, and this is a elegant way around it. As part of validation process, we can look at cases that were excluded and we can make a list of cases we may want to include. I do want to comment on the MIPS measure. The measure was built differently and does take a subset of cases they include and require 2 non-opioid analgesics. We have a much broader pool of cases. MIPS is narrower. From adult literature, only multimodal we know is safe is acetaminophen, and in some cases magnesium, lidocaine, ketamine, gabapentanoids. However, you can also find a reason not to give it for certain case types. Unless we narrow down the exclusion criteria to have more than one. Could cause issues with behavior that we don't want. One thing we could do over time especially as we get into looking at specific case - spine surgery specifically and maybe that is when we can identify specific case types with more than 1 multimodal.
    - *Lisa Einhorn (Duke University):* I personally agree with you. As this becomes more specific to identify more intense surgery types, a sub measure could be added to ensure more than 1 multimodal is used in those specific cases. Not necessarily appropriate to require two across the wide spectrum of cases performed in pediatrics but there are cases where 2 multimodal medications would be appropriate. Wide range of practice often based on clinician judgement.
    - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* I love the idea of excluding it. If you didn't receive any pain medications or if you are not giving opioids, it doesn't make sense to require non-opioids. For MRI it does not matter what the CPT code is, it is a non-clean solution to exclude all.
- *RJ Ramamurthi (Lucile Packard Children's via chat):* I hope you are capturing pre-op medications too?
    - *Brad Taicher (Duke)*: If the circulator documents it, it should be included.
    - *Nirav Shah (MPOG QI Director):* Over the last few years, we have worked with sites to include medications given in pre-op holding and in the PACU. If you are finding that those are not captured, please let us know. Local administered by surgeon should be captured as well.
- *Mo Esfahanian (Lucile Packard Children's via chat):* Not to be facetious, but it's in the name - multi means more than one. Otherwise, it'd be monomodal 😂
- *Wes Templeton (Wake Forest):* Considerations in terms of age group? 11,000 cases that were flagged, any representation of age groups?
    - *Lisa Einhorn (Duke)*: Preterm neonates had the lowest compliance with this measure. I don't know if it represents thoughtfulness of pain medication in this age group. Tylenol is appropriate in this age group for most patients.

        - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke):* There are hospitals attempting to be cost-conscious of IV Tylenol. Can filter age groups to ensure you have the compliance that you expect at your institution.
        - *Wes Templeton (Wake Forest)*: Just wondered if there were larger things to consider or some sort of homogeneity that might be represented in those populations
    - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke)*: If patients remained intubated is that one of the exclusions?
        - *Meridith Wade (MPOG Pediatric Program Manager):* Yes.

- ***VOTE*:**



- Summary of recommended modifications to PAIN-01-Peds:
    - Add threshold of 90%
    - Include Cardiac procedures that were extubated intraop – dependent on cardiac phenotype review
    - Exclude Block Only cases
    - Exclude Myringotomy & Tube cases
    - Exclude cases that received no analgesia
    - Improve accuracy of ABR and Lumbar Puncture exclusions
    - Modify language in rationale

Using MPOG for Pediatric Anesthesia QI (Dr. Lauren Madoff, Boston Children's)

- Individual Goals
    - Review personal metrics
    - Compare to others within the department
- Institutional Goals
    - Target department-wide areas for improvement
    - QI measures at multi-institutional level
- Timeline
    - June 2023: Announced the initiation of MPOG dashboard at department-wide staff meeting
    - August 2023: Second announcement about individual MPOG dashboards
    - September 2023: Individual MPOG dashboards go live
        - Staff encouraged to review dashboards

- Formed a departmental MPOG QI Committee
    - Volunteer committee – 10 volunteers
    - Monthly meetings
    - 1 metric reviewed at each meeting
        - Is the information being recorded correct?
        - Mapping errors?
        - Is the data relevant to our practice?
        - Can the data be improved?
- Future Directions
    - Provide feedback on existing metrics
    - Develop new metrics
        - Cardiac
        - Pain
            - Blocks
            - Multi-modal analgesia
    - Email Lauren.Madoff@childrens.harvard.edu

- **DISCUSSION**:
    - *Brad Taicher (MPOG Pediatric Subcommittee Chair, Duke)*: I think we are all interested in creating additional measures that we can share with our teams.

MPOG Pediatric Research Update (Vikas O'Reilly-Shah, MPOG Pediatric Subcommittee Vice-Chair-Seattle Children's & Mike Mathis, MPOG Research Director)

- Two multicenter pediatric research proposals recently accepted by the MPOG Perioperative Clinical Research Committee (PCRC)
    - PCRC 0145: Prophylaxis Practice in Pediatric PONV: A Retrospective Observational Study
    - PCRC 0180: The Association of Guideline Directed Prophylaxis with the Incidence of Postoperative Nausea and Vomiting in Pediatric Patients.
- Recent MPOG Peds Publications: Congrats to Wes Templeton, Sydney Brown, and teams for leading this work!
    - Hypoxemia in school age children undergoing one-lung ventilation: a retrospective cohort study from MPOG (Wes Templeton and colleagues)
    - A retrospective observational cross-sectional study of intraoperative neuromuscular blocking agent choice and dosing in a US pediatric referral hospital before and after introduction of Sugammadex (Sydney Brown and colleagues)
- Other Projects

PCRC-0128	03/14/2022	Weill Cornell Medicine	Pryor/Tangel	Accepted
PCRC-0127	08/09/2021	Washington	Lele	Accepted
PCRC-0092	03/09/2020	Mass General	Rosenbloom	Accepted

- Pediatric Phenotypes in Progress – PCRC 241 (Nasr)
- Gestational Age at Birth
    - Current State
        - AIMS data sites have mapped to MPOG concepts is very limited and highly variable.

        - MPOG Concepts Available: Pediatrics-Premature Birth, Pediatrics-Gestational Age at Birth
    - Some value examples include:
        - **Text:** *28 - 31 weeks (2), < 28 weeks (3), 24.57142857, Twin at 32 weeks EGA, Premature newborn (BW … lb. … oz: NICU x 100 days), 22 5/7 wks., Less than 37 weeks, Yes*
        - **Numeric:** *0.156, 1, 0*
    - Gestational Age at Birth Phenotype
        - Description: determines if a case was performed on a patient that was born prematurely.
        - Limitation: Results dependent on submission and accuracy of ICD codes
        - Future Goal: Refine phenotype with additional data submitted to increase accuracy and fill rates for projects on neonates
            - Encourage sites to review/update their current variable mappings
            - Share current and best documentation practices.
- PCRC Proposals and "rightsizing" the paper
    - Share current and best documentation practices.
    - Reporting
        - Pick an EQUATOR checklist and use when designing the protocol
            - https://www.equator-network.org/ & https://www.goodreports.org/
        - If there is a better checklist for a novel methodology (machine learning, etc), use it. https://www.ahajournals.org/doi/10.1161/CIRCOUTCOMES.120.006556
        - STROBE is not enough anymore. Use RECORD, SQUIRE, etc
- MPOG Specific Guidance
    - When reporting a paper, sample size is your enemy, not your friend
    - Do *NOT* highlight how many cases are in MPOG that you "started" with
        - readers question generalizability after excluding so many cases
    - Statistical significance is a burden that must be explained
    - Effect sizes are the key
    - Consider a priori minimal clinically important difference in protocol
    - MPOG data is no longer restricted to "academic medical centers"
    - Model parsimony builds upon hypothesis focus
    - Use supplemental digital content freely for model reporting

Wrap Up

- Next Meeting: March 2024
- If interested in joining, email meridith@med.umich.edu (Meridith Wade – MPOG Pediatric Program Manager)
- Thank you to Dr. Taicher for his contributions as MPOG Pediatric Subcommittee Chair over the last two years. Best of luck in your new role as Department Chair at DC Children's!

Meeting Concluded @ 1601