

## Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subgroup Meeting Minutes – October 6, 2020

### Attendees: P=Present

|   |   |   |  |
|---|---|---|--|
|   | Alina Bodas, Cleveland Clinic                         |   | Liem Pham, NYU Langone                             |
|   | Allan Simpao, Children's Hospital of Philadelphia     |   | Lisa Chan, Arkansas Children's                     |
|   | Amber Franz, Seattle Children's                       | p | Lisa Vitale, Michigan Medicine                     |
|   | Anna Clebone, University of Chicago                   | P | Lucy Everett, Mass General Hospital                |
|   | Anna Swenson, University of Minnesota                 | P | Lori Reigger, Michigan Medicine                    |
|   | Anastasia Grivoyannis, Weill-Cornell                  |   | Luis Tollinche, Memorial Sloan Kettering           |
|   | Anshuman Sharma, Washington University                |   | Marco Silvestrini, US Anesthesia Partners          |
| P | Ashka Shah, University of Utah                        | P | Morgan Brown, Boston Children's                    |
| P | Bishr Haydar, Michigan Medicine                       | P | Olga Eydlin, NYU Langone                           |
| P | Bob Brustowicz, Boston Children's                     |   | Paul Reynolds, Michigan Medicine                   |
| P | Brad Taicher, Duke University                         |   | Phillip Yun, OHSU                                  |
| P | Carrie Menser, Vanderbilt                             | P | Priti Dalal, Penn State University                 |
| P | Charles Schrock, Washington University                | P | Red Starks, US Anesthesia Partners                 |
| P | Cheryl Gooden, Yale University                        |   | R.J. Ramamurthi, Stanford                          |
| P | Christy Crockett, Vanderbilt                          | P | Robert Bryskin, US Anesthesia Partners             |
|   | Claudia Benkwitz, UCSF                                |   | Robert Christensen, Michigan Medicine              |
|   | Dan Roke, St. Louis Children's                        |   | Ronak Patel, University of Virginia                |
|   | David Buck, Cincinnati Children's                     | P | Ruchika Gupta, Michigan Medicine                   |
|   | Elizabeth Elliot, Children's Hospital of Philadelphia |   | Ryan Bradstreet, Bronson Healthcare Group          |
| P | Germaine Cuff, NYU Langone                            |   | Shannon Grap, Penn State Children's                |
|   | Gina Whitney, University of Colorado                  | P | Shobha Malviya, Michigan Medicine                  |
|   | Hamid Vahabzadeh-Monshie, University of Oklahoma      | P | Sean Wickers, University of Colorado (Med Student) |
|   | Imelda Tjia, Texas Children's                         | P | Stephanie Kahntroff, University of Maryland        |
|   | Jacob Tiegs, NYU Langone                              | P | Steve Zgleszewski, Boston Children's               |
| P | James Xie, Stanford (Lucile Packard Children's)       |   | Tetsu Uejima, DuPont Children's                    |
|   | Jennifer Dagen, US Anesthesia Partners                |   | Tyler Morrissey, Colorado Children's               |
|   | Jessica Cronin, John Hopkins Children's               |   | Uma Parekh, Penn State Children's                  |
| P | Jim Fehr, Stanford (Lucile Packard Children's)        | P | Vikas O'Reilly-Shah, University of Washington      |
|   | Jina Sinsky, UCSF                                     | P | Vivian Onyewuche, Henry Ford-Detroit               |
| P | Joe Cravero, Boston Children's                        |   | Wenyu Bai, Michigan Medicine                       |
|   | Jonathan Halem, Penn State Children's                 | P | Wilson Chimbira, Michigan Medicine                 |
|   | Jorge Galvez, Children's Hospital of Philadelphia     | P | Nirav Shah, MPOG Associate Director                |
|   | Julianna Mendoza, Stanford University                 | P | Kate Buehler, MPOG Clinical Program Manager        |
| P | Jacques Scharoun, Weill-Cornell                       | P | Meridith Bailey, MPOG QI Coordinator               |
| P | Jurgen de Graaff, Erasmus MC-Netherlands              | P | Brooke Szymanski, MPOG QI Coordinator              |
| P | Lora Gibbs, Michigan Medicine                         |   | Jackie Goatley, Michigan Medicine                  |
|   | Laura Downey, Emory University                        | P | Mike Mathis, MPOG                                  |
|   | Lianne Stephenson, University of Wisconsin            |   |  |

## Agenda & Notes

### I. July 2020 Meeting Summary

- a. Meeting Minutes from July 2020 have been posted to the [website](#)
- b. Pediatric Measure Performance Review
  - i. TEMP-04
  - ii. Opioid Equivalency - Tonsil & Adenoidectomy (pediatric)
- c. Non-Opioid Adjunct Measure Discussion (PAIN-01)
  - i. Initial measure proposal and discussion of non-opioid adjuncts to include

### II. Announcements

- a. Annual [MPOG Retreat](#) held virtually last Friday 10/2. All presentations available on our website
  - i. CMS perspectives on Quality Improvement
  - ii. Best of MPOG Abstracts
  - iii. MPOG Subcommittee updates
  - iv. Is Equity, Diversity and Inclusion important for perioperative outcomes?
    - 1. *Nathalia Jimenez, MD (Seattle Children's)*
  - v. Integrating MPOG Data with Surgical Registries
- b. SPA Quality & Safety Meeting this Friday 10/9
  - i. Update on the work of MPOG pediatric subcommittee will be presented
- c. Upcoming meetings
  - i. Pediatric Subcommittee Meetings → December 2020- specific date TBD
  - ii. 2021 Schedule
    - 1. February 17
    - 2. May 19
    - 3. August 18
    - 4. October 9 (In person @ SPA)
    - 5. December 15
  - iii. MPOG Annual Retreat 2021 → October 8 (San Diego, CA)
- d. **New! Pediatric QI Dashboard**
  - i. Similar to regular MPOG Dashboard except only for the measures that are relevant to pediatric patients. Not all measures are specific to peds however, automatic filter applied to view only patients <18yo.
  - ii. Includes two peds specific measures
    - 1. PONV 02
    - 2. TEMP 04
  - iii. Additional filters
    - 1. Patient gender
    - 2. Patient race
    - 3. Provider type
  - iv. Measure summary pages

1. Overall score
2. Different result reasons
3. Breakdown by location – new!
  - a. Useful for institutions with larger campuses with multiple locations
4. Performance trend graphs
  - a. See performance over time as well as comparison between sites
  - b. Easier to see own site vs others
5. Measure case list view
  - a. Allows user to review individual cases
  - b. Search filter
    - i. Case ID
    - ii. Attending
  - c. Dropdown for each case
    - i. Shows why the case got the result that it did
- v. Hope to add in another functionality soon where sites can choose which subset of measures they are interested in following and have those “favorites” be the default view

### **III. MPOG Research Process Overview: From Real-World Data to Actionable Knowledge**

- i. *Michael Mathis, MD- Assistant Professor of Anesthesiology, Associate Research Director, MPOG*
- ii. *Shelly Vaughn, MPH- Depart of Anesthesiology, Lead Research Facilitator, MPOG*
- b. Types of Research Studies Leveraging MPOG
  - i. Descriptive Studies
  - ii. Operational Analysis
  - iii. Outcomes Studies
    1. MPOG Data
    2. MPOG + Surgical Registries (STS and NSQIP)
  - iv. Clinical Trials Network
- c. Data Direct: “Democratizing” Data Access
  - i. When pursuing MPOG research, MPOG provides a wide array of tools to push through the inertia of developing a research question and identifying a cohort of MPOG patients which may serve to answer the question
  - ii. Our goal at MPOG central is to enable researchers to access perioperative EHR data without needing to be an expert programmer, or a first-degree relative of your hospital’s CMIO
  - iii. What DataDirect seeks to do, is democratize Data Access through implementing an intuitive, user-friendly tool which makes a simple assumption that anesthesiologists aren’t all software engineers

1. Enables users to create a simple cohort of patients within minutes, to understand if a project is feasible.
- iv. For more information on how to use MPOG DataDirect, please refer to the [“Data Direct User Guide](#) and Demonstration Talk” also available on our website.
- v. For more information on the approach MPOG takes to ensure secure data analyses on a high-performance central server, please refer to the talk on [“Big Data Management”](#).
- d. Phenotypes: Structured Inferences from messy data
  - i. Another obstacle to doing high-quality observational research that MPOG has taken on, is the obstacle of wrangling messy, raw data derived from routine clinical care, and transforming this into a reproducible, clinically meaningful format.
  - ii. MPOG has developed a tool – the [MPOG phenotype browser](#) which rapidly transforms a combination of raw EHR data inputs, into a high-level, clinically meaningful, structured inference known as an MPOG phenotype.
  - iii. Phenotypes are validated, published, and made publicly available on the MPOG website
  - iv. For more details on this process, please refer to the [“MPOG Phenotypes”](#) talk given by Dr. Michael Burns
- e. Developing a Research Study
  - i. At the MPOG coordinating center, we recognize that multicenter observational research using routinely collected, messy EHR data can often be a daunting process
  - ii. To break this down into digestible chunks for MPOG researchers to follow, we have a step-by-step playbook on our MPOG website, explicitly outlined in high detail, governed by the [MPOG Perioperative Clinical Research Committee](#) (or PCRC).
  - iii. These tried-and-true steps are designed to help researchers map out a research proposal from start to finish, beginning with reviewing these lectures and consulting your sites local MPOG research PI, and ending with a high-impact journal publication.
  - iv. For more information on this process, please visit the [MPOG Research](#) website
- f. [PCRC Community of Peers](#)
  - i. The PCRC is a group of research collaborators across all MPOG centers, committed to the success of its peers through providing feedback over email at monthly web meetings, and at annual professional anesthesiology research forums
  - ii. For more information of the step-by-step process of presenting a research proposal through PCRC, please refer to the talk provided by Dr. Allison Janda, [“Developing a PCRC Presentation”](#)
- g. Data Visualization and Curation

- i. Following the acceptance of a research proposal by the PCRC committee, MPOG recognizes that additional data inspection, visualization, and cleaning are usually necessary to ensure rigorous research
  - ii. To learn more about the access and use of MPOG Data Explorer, please refer to the talk by Dr. Nicholas Douville, "[Inspecting and Curating MPOG Data](#)".
- h. MPOG Pediatric Research
  - 1. 007 - Schonberger: **PCRC Accepted** Prevalence and trends of high body mass index in a multi-institution pediatric surgical population: A Report From the Multicenter Perioperative Outcomes Group (MPOG) (Yale)
  - 2. 018 – De Graaf: **Published** Anesthesiology 2018
  - 3. 038 – Lichtor: **Submission to Journal of Pediatrics** *Anesthesia practice for pyloromyotomy: A retrospective analysis of care patterns from a national cohort* (Yale)
  - 4. 046 – Riegger: **Published** Anesthesia & Analgesia 2020
  - 5. 068 – Rosenbloom: Presented to PCRC 9/17/18 Racial differences in induction times in pediatric anesthesia practice: A retrospective cohort study from the Multicenter Perioperative Outcomes Group Research Consortium (Massachusetts General Hospital)
  - 6. 090 – Montana: TBD Risk Factors for Persistent Severe Intraoperative Hypoxemia Among Pediatric Patients undergoing Non-cardiac Surgery (Washington University - St. Louis Children's)
  - 7. 092 – Rosenbloom: **PCRC Accepted** The effect of induction time on intraoperative hypoxemia for pediatric patients undergoing anesthesia: a retrospective cohort analysis (Massachusetts General Hospital)
  - 8. 118 – Puglia: TBD Associations between the COVID pandemic and adherence to ASPIRE Quality Measures - Pediatric (Michigan Medicine)
  - 9. 124 - Legrand (PCRC 0102 Sub-analysis): Practice Patterns for Albumin Use in Pediatric Liver Transplantation (UCSF)
  - 10. 128 – Pryor/Tangel: TBD External validation of a Perioperative Risk Score to Predict Mortality after Pediatric Surgery (Weill-Cornell)
- i. Tips and tricks, along with videos, available <https://mpog.org/tipsandtricks/>

#### IV. Pediatric Measure Performance Review

- a. Opioid Equivalency – spine (pediatrics)
  - i. Anesthesia Start → Anesthesia End
  - ii. Case Cohort – Patients < 18yo
    - 1. Procedures on cervical spine and cord
      - a. not otherwise specified (CPT: 00600)
      - b. patient in sitting position (CPT: 00604)
    - 2. Procedures on thoracic spine and cord
      - a. not otherwise specified (CPT: 00620)

- b. via an anterior transthoracic approach; not utilizing 1 lung ventilation (CPT: 00625); utilizing 1 lung ventilation (CPT: 00626)
    - 3. Procedures in lumbar region; not otherwise specified (CPT: 00630)
    - 4. Extensive spine and spinal cord procedures (CPT: 00670)
  - iii. [Measure Specification](#)
  - iv. Review comparison by site
  - v. Variation by provider and case count (past 12 months)
  - vi. Opioid Equivalency by case
    - 1. Includes information on remifentanyl admin and highest pain score per case
- b. Pain 01 – In development
  - i. **Description:** Percentage of patients < 18 years old who undergo a surgical or therapeutic procedure and receive a non-opioid adjunct preoperatively and/or intraoperatively.
  - ii. **Success Criteria:** At least one non-opioid adjunct medication was administered to the patient during the preoperative or intraoperative period.
  - iii. **Measure Time Period:** Preop Start → Anesthesia End
  - iv. **Exclusions**
    - 1. ASA 5 and 6; Patients transferred directly to ICU
    - 2. Organ Harvest, Cardiac Surgery , Non-operative procedures and Radiology procedures
    - 3. Patients that were not extubated in the immediate postoperative period.
    - 4. Patients not given opioids or non-opioid adjuncts
  - v. **Responsible Provider:** No individual attribution
  - vi. New Since last meeting:
    - 1. Patients extubated rather than ICU transfer
    - 2. No responsible provider - cases flagged at departmental level
  - vii. Medications and Route Considered
    - 1. Non-Opioid Adjuncts
      - a. Acetaminophen
      - b. Aspirin
      - c. Ibuprofen
      - d. Naproxen
      - e. Celecoxib
      - f. Ketorolac
      - g. Ketamine
      - h. Lidocaine (IV infusion only)
      - i. Dexmedetomidine
      - j. Gabapentin
      - k. Pregabalin
      - l. Clonidine

- m. Esmolol
  - i. Data is lacking for peds, however subcommittee decided that it would be valuable to include
- n. Magnesium
- o. Note: dexamethasone was not included as it is given so commonly that we didn't want success to be a low bar

2. Routes

- a. Intravenous (bolus and infusion)
- b. Intramuscular (\*Ketorolac only)
- c. Oral
- d. Nasal
- e. Enteric Tube
- f. Note: Transdermal and rectal routes not considered

3. Additional information provided

- a. Peripheral Nerve Block (Yes/No)
  - i. MPOG limitations for inclusion of regional anesthesia; currently working on phenotype for PNB
- b. Neuraxial (Yes/No)
- c. Spinal (Yes/No)
- d. Opioids Given in PACU
- e. Highest Pain score in PACU

**v. MPOG Quality Measure Review – Brad Taicher, MD**

a. Background

- i. Coordinating Center has created a review schedule for all measures
  - 1. Quality measures should reflect the latest evidence or may be “topped out” and worth retiring if no longer relevant for QI
- ii. MPOG subcommittee members have tremendous experience and expertise that should be leveraged to keep quality measures current and relevant to pediatrics
- iii. Request MPOG Pediatric Champions collaborate in this review process with other quality committee members

b. Plan

- i. Reviewers will make one of the following recommendations (with supporting evidence)
  - 1. Continue measure as is
  - 2. Modify measure
  - 3. Retire measure
- ii. Considerations
  - 1. Reviewers will be de facto members of MPOG Quality Improvement Measure Workgroup
  - 2. Coordinating Center will not assign more than 2 measures per Quality Champion

3. Coordinating Center team will assist reviewers as necessary to complete review process
- c. Measure Review Schedule: Pediatrics
  - i. 12/2020
    1. AKI 01 - *Acute Kidney Injury* → (**Bishr Haydar**)
    2. PUL 01 - *Protective Tidal Volume, < 10mL/kg PBW* → (**Wes Templeton**)
    3. PUL 02 - *Protective Tidal Volume, < 8mL/kg PBW* → (**Wes Templeton**)
    4. TEMP 03 - *Postoperative Hypothermia* → (**Vikas O'Reilly-Shah**)
  - ii. 03/2021
    1. CARD 02 - *Myocardial Infarction* → (*Peds Reviewer?*)
    2. PONV 02 - *PONV Prophylaxis, Pediatrics* → (**Brad Taicher & Lisa Vitale**)
  - iii. [Full Schedule](#)

## VI. Next Steps

- a. Publish PAIN 01
  - i. Requesting feedback regarding current plan for measure
- b. Discuss 2021 Goals
  - i. Call for Measure Survey will be sent out later this month
  - ii. Feedback is greatly appreciated
- c. Schedule meeting for December
- d. Measure Build
  - i. Pediatric Temperature Management (TEMP 04)- COMPLETE!
  - ii. OME Pediatric Cohort #1- Tonsillectomy/Adenoidectomy- COMPLETE!
  - iii. OME Pediatric Cohort #2- Spine- COMPLETE!
  - iv. Non-Opioid Adjunct (PAIN-01) – December 2020
- e. Basecamp forum
  - i. Great place for us to keep track of feedback
  - ii. Please let us know if you do not have access

## VII. Discussion

- a. *Meridith Bailey, MPOG Coordinating center* – Main feedback on basecamp was regarding whether or not we want to release PAIN 01 with the regional phenotype as a cleaner way to see whether or not a block was given or release now with meds only and regional as informational only. The phenotype is not quite ready yet. The adult MIPS measure considers regional as a non-opioid adjunct. The current spec does not consider regional as a non-opioid
- b. Should regional anesthesia be counted as a non-opioid adjunct and be considered passing for the measure?
  1. *Shobha Malviya, Michigan Medicine*- Regional doesn't always have to be non-opioid because we do a lot of spinal opioids
  2. *Wilson Chimbira, Michigan Medicine*-“thumbs up” (Zoom)



3. *Bishr Haydar, Michigan Medicine*- Use of spinal shouldn't have massive impact on immediate opioid consumption during the OR they wouldn't receive much by way of opioid so they should be excluded I would think from the measure. For patients with regional, certainly they are going to benefit from not receiving any immediate opioids and might have an entirely opioid free course. So, I would think that they should be included
4. *Shobha Malviya, Michigan Medicine*- Would we include the patients getting spinal morphine for hernia repairs? I would not consider that a non-opioid adjunct strictly speaking
5. *Bishr Haydar, Michigan Medicine*- I would agree with that. The use of intrathecal opioids for postoperative analgesia shouldn't impact the adverse events associated with opioids
6. *Carrie Menser, Vanderbilt* – At a minimum you would want to count it as a success if you used a regional technique that involved local anesthetic in particular. I think you are dealing with a pretty small subset of patients that are receiving intrathecal opioids only, that's a pretty defined population. Most of them are going to be utilized in conjunction with a local anesthetic at which point it would be systemically opioid sparing
7. *Joe Cravero, Boston Children's*- I would agree. What we have done in studies that we have looked at where we have used either epidurals or spinals with opioids is we consider it different from systemic opioids because the dosing is so hard to compare and it constitutes a regional intervention. I think strictly speaking you are right it is the use of an opioid but to us it is considered a different use of an opioid so it is considered regional, not like a systemic opioid, knowing that some of it does get systemic so it does get messy, but I would agree with the last comment that it should be considered separately
8. *Nirav Shah, MPOG Coordinating Center*- should a regional with local anesthetic be considered a non-opioid adjunct?
9. *Joe Cravero, Boston Children's*- Absolutely
  - ii. *Brad Taicher, Duke*- I think non-opioid adjunct is tough phrasing, opioid sparing is better. It is still opioid sparing from a parenteral perspective
  - iii. *Meridith Bailey, MPOG Coordinating Center*- The regional phenotype should be ready in the next couple of weeks
    1. Next steps would be to add it to the measure code and then review the cases to validate that it is grabbing the cases accurately
  - iv. *Wilson Chimbira, Michigan Medicine*- In that case, I recommend we wait until its ready. I think if we have it informationally only then we will be missing a lot of opioid sparing adjuncts

- v. *Meridith Bailey, MPOG Coordinating Center*- Will follow up via Basecamp with progress and shoot for December deadline
- c. OME Feedback
  - i. *Nirav Shah, MPOG Coordinating Center*- As you look at the OME data for spine cases, as you do the case review would be interesting to get feedback regarding if we are including the right cases or if there are cases that are slipping in there that may not be appropriate. We are using anesthesia CPT codes and not surgical CPT codes to define the cases which can contribute to the messiness. If you start seeing something weird in the case list please let us know.
    1. We are transitioning from the old dashboard to the new. OME is only available in the old dashboard right now. Will be moved over, along with provider dashboards, within the next 6-8 weeks. Then we will retire the old dashboard.

**Meeting adjourned at: 1456**