Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Pediatric Subcommittee Meeting Minutes – May 13, 2024

Attendance:

Henrietta Addo, MPOG	*Anisha Nadkarni, Johns Hopkins*
Ben Andrew, Duke University	*Diana O'Dell, MPOG*
Nicole Barrios, MPOG	*Vivian Onyewuche, Henry Ford*
Graham Beck, University of Michigan	*Vikas O'Reilly-Shah, Seattle Children's*
Ryan Bradstreet, Bronson Health	*Rebecca Pantis, MPOG*
Morgan Brown, Boston Children's	*Jacques Scharoun, Weill Cornell*
Kate Buehler, MPOG	*Charles Schrock, WUSTL*
*Albert de Armendi, University of Oklahoma**	*Nirav Shah, MPOG*
Lisa Einhorn, Duke University	*Ruchika Sharma, University of Virginia*
Mo Esfahanian, Stanford University	*Frances Guida Smiatacz, MPOG*
Lucy Everett (Mass General), MGH	*Anna Swenson, University of Minnesota**
Marla Ferschl, UCSF	*Virginia Tangel, Weill Cornell*
*Eduardo Javier Goenaga Diaz, CHOP**	*Thomas Templeton, Atrium Health*
Kirsten Groody, University of Michigan	*Lisa Vitale, University of Michigan*
Jeana Havidich (Vanderbilt), Vanderbilt University	*Peggy Vogt, Emory University**
Bishr Haydar, University of Michigan	*Meridith Wade, MPOG*
John Huntington, Corewell Health West	*Lindsey Weidmann, CHOP**
Stephanie Kahntroff, University of Maryland	*Theodora Wingert, UCLA*
Rahul Koka, Johns Hopkins	*Andrew Zittleman, MPOG*
Albert Lin, Columbia University	*Kimberly Finch, Henry Ford*
Eva Lu-Boettcher, University of Wisconsin	*Robert Brustowicz, Boston Children's*

**Denotes participant from non-active MPOG Institution*

Start: 1604

Minutes from December 4, 2023 meeting approved - minutes and recording posted on the MPOG website for review

Announcements:

- Vikas O'Reilly-Shah (Seattle Children's) presented the latest MPOG case counts, highlighting that over 10% are pediatric cases. Major contributors include Vanderbilt, Boston Children's, and the University of Michigan.

- Updates on quality measures TEMP-04-Peds and PAIN-01-Peds were shared, along with successful implementation of a new gestational age phenotype.

    - TEMP-04-Peds Intraoperative Normothermia, Pediatrics → MODIFY
        - Exclude GI Endoscopy cases
        - Exclude patients hypo/hyperthermic in preop
    - PAIN-01-Peds - Multimodal Pain Management, Pediatrics → MODIFY
        - Added performance threshold of 90%
        - Excluded Block Only cases
        - Excluded cases that received no analgesia

- Several QI measures were retired in April 2024 to refine targets and better meet member needs.
    - GLU-01 → GLU-09: Hyperglycemia Management, Intraop (> 180 mg/dL)
    - GLU-02 → GLU-12: Hypoglycemia Management, Intraop (< 70 mg/dL)
    - GLU-03 → GLU-10: Hyperglycemia Management, Periop (> 180 mg/dL)
    - GLU-04 → GLU-13: Hypoglycemia Management, Periop (< 70 mg/dL)
    - GLU-05 → GLU-11: Hyperglycemia Treatment, Periop (> 180 mg/dL)
    - MED-01 → PAIN-03: Opioid Reversal with Naloxone
    - PONV-01 → PONV-05: PONV Prophylaxis, Adults (2020 Guidelines)
    - PONV-02 → PONV-04: PONV Prophylaxis, Pediatrics (2020 Guidelines)
    - PUL-02 →RETIRED

- Meridith Wade (MPOG) discussed updates to the QI provider dashboard, including new features for easier access to performance data.
    - Ruchika Sharma (University of Virginia) clarified dashboard access, noting that only providers receiving feedback emails have access to provider dashboards.
- Upcoming meetings of interest include the Pediatric Subcommittee meeting in November and the MPOG Annual Retreat in October in Philadelphia.
- Morgan Brown (Boston Children's) discussed the pediatric cardiac work group's efforts to refine cardiac phenotypes and develop QI measures.

Case Study - Choosing MPOG QI Metrics:

- Vikas O'Reilly-Shah (Seattle Children's) detailed their approach to utilizing MPOG quality metrics, focusing on departmental rather than provider-level feedback to foster a non-punitive culture.
- Various metrics were reviewed, including colloid use, transfusion vigilance, pain management, and nitrous oxide avoidance.
- Issues and improvements were identified, such as fixing documentation errors and implementing reminders.

Unblinded Performance Review Session:

- Nirav Shah (MPOG QI Director) reviewed the SUS-06-Peds and SUS-05-Peds measures and highlighted the variation in performance across MPOG institutions.
- Discussions emphasized the importance of default settings, education, and addressing cultural biases towards gas flow rates.

- Shared experiences on cost savings and challenges with nitrous oxide usage. Initiatives like the Cascadia Nitrous Oxide Collaborative were mentioned as resources for mitigation strategies.

Wrap-Up:

- Vikas O'Reilly-Shah (Seattle Children's) concluded the meeting, encouraging attendees to reach out offline for further discussions and reminding them about the upcoming MPOG Annual Retreat.

Meeting Concluded: 1702

Transcript

Announcements

Vikas O'Reilly-Shah (Seattle Children's): To kick us off, we have the latest numbers for the case counts for MPOG. I right now there's something like 23 million cases overall that meet the interoperative research standard. You can see that we have slightly over 10% of those being pediatric cases. Vanderbilt, Boston Children's, and U of M, of course, are contributing the largest volume. Here at Seattle Children's, we've only been on Epic since October of 2020, so our case counts are lower. The case counts for various age groups are also shown, which is helpful for anyone planning to do any work involving the use of this data.

In terms of last year's efforts, in 2023 we reviewed two quality measures: TEMP-04-Peds and PAIN-01-Peds. You can see the modifications recommended to MPOG at that time. These measures have been updated and are ready for review on your site quality dashboards.

Vikas O'Reilly-Shah (Seattle Children's): There was also a phenotype built at the behest of a research project approved by the PCRC. Gestational age at birth was characterized using primarily an ICD-based approach, and it seems to have had good success with numbers consistent with our clinical experience and what we'd expect in terms of the proportion of patients at earlier gestational ages.

Several QI measures were retired in April 2024. This reflects the effort by MPOG to take some of the initially developed metrics and redirect them, firm up the logic, and make the targets tighter to meet the needs of a greater number of contributing members. For example, PONV-04-Peds has replaced PONV-02-Peds for PONV prophylaxis which is based on the 2020 guidelines, and may interest this group.

There have been updates to the QI provider dashboard. Meridith, do you want to chat about that?

Meridith Wade (MPOG Pediatric Program Manager): For individual providers, when they log into their dashboard, they'll now see benchmark data and how they stack up against other providers at their institution within their role. This includes performance trends and a widget for easier access to their flagged cases. Not a ton of updates but wanted to make note of some new features for those that do have an MPOG quality dashboard.

Discussion:

- *Ruchika Sharma (University of Virginia):* Not everyone gets a dashboard right? Special rates apply?!!
- *Nirav Shah (MPOG QI Director):* Every department now has a dashboard but only providers that get a provider feedback email have a provider dashboard.
- *Kate Buehler (MPOG Clinical Program Manager):* Also, some participants on this call are still working on joining MPOG (some sites aren't yet uploading data so wouldn't have a dashboard quite yet).

Vikas O'Reilly-Shah (Seattle Children's): I want to mention some meetings that might interest folks on the call. Our next pediatric subcommittee meeting is in November. The MPOG Annual Retreat will be in October in Philadelphia.

Discussion:

- *Alberto de Armendi (University of Oklahoma):* Is the Philadelphia meeting tied to the ASA
- *Nirav Shah (MPOG QI Director):* not officially tied to the ASA, but always the Friday before the ASA starts, and always at a hotel near the ASA convention center. need to register separately. thanks

The pediatric cardiac work group had a kickoff meeting in February, with another in June. Morgan, do you want to comment on the pediatric group?

Morgan Brown (Boston Children's): Yes, thank you. We just had our first meeting, so if anyone is interested in joining us, we're just getting started. Our first task is really to look at our cardiac phenotype and make sure we're capturing cases. The adults have done this, and we're piggybacking on their work to refine that. Ultimately, we want to develop some QI process and outcome measures specifically for cardiac patients. In many of these metrics, cardiac patients are excluded for obvious reasons. We want to increase the awareness of NPOG and hopefully further develop research. As you can see, there are a lot of publications coming out from many sites, and hopefully, we'll have some pediatric cardiac papers soon. We're also exploring issues with merging CCAS and STS with MPOG data at your own site. The adult group has done this at some sites, and it looks promising for quality and research. We haven't set the next meeting but let Meridith know if you're interested in this subgroup, and she'll add you to the list and inform you when it's set.

Case Study: Choosing MPOG QI Metrics

Vikas O'Reilly-Shah (Seattle Children's): Switching gears to the case study, we'll discuss how we are utilizing MPOG quality metrics at Seattle Children's, which might help others. Prior to our first meeting, there was a fair amount of informal chats with different folks about the metrics available to us. We identified questions and concerns, then organized a local committee to review our measures. This brought in diverse perspectives and helped improve the credibility of our efforts. There's a lot of expertise and broadening perspectives for various folks who viewed these metrics through different

lenses which provided a lot of great insight. Having a broad section of the committee and department involved improved the credibility of these efforts.

We looked at all the metrics, particularly the pediatric ones, and volunteers from the committee reviewed those of greatest interest. The review aimed to identify problems with our data or the metrics themselves and how relevant they were to our practice. We also thought through how to drive improvement based on the chosen metrics. At Seattle Children's, we decided against provider-level feedback, feeling our culture wouldn't support it. There was also resistance and hesitation about data being used to measure performance. Instead, we focused on departmental dissemination and quality improvement cycles. People didn't see it as just a top-down imposition but something their peers were involved in. We assessed a broad swath of metrics:

- FLUID-01-C: Minimizing Colloid Use, Cardiac: For the cardiac colloid fluid use metric, we identified that all our cases were flagged due to the documentation of albumin from the prime medications given by perfusion, making this metric irrelevant as constructed.
- TRAN-03-Peds: Transfusion Vigilance: The majority of flagged cases often involved incremental documentation of transfusions given on a clinical basis, not always linked to a point-of-care H&H, indicating a potential need for algorithm improvement.
- TRAN-04-Peds: Overtransfusion: Post-op H&H values often flagged cases where transfusions were started by others or occurred outside the flagged window. We identified improvement opportunities within specific service lines, like craniotomies, and decided to address within those services rather than department wide.
- PAIN-01-Peds: Multimodal Analgesia: The pain metric reviewer noted a bone to pick with including Ketamine but felt we were doing well overall. We might revisit this during a measure review if others feel strongly about it.
- PONV-03: Postoperative Nausea or Vomiting Outcome: For the PONV metric, we fixed an issue with Epic antiemetic documentation leading to a high outcome rate. Our outcome rate was low after the fix, and we didn't feel further action was necessary. Ongoing PCRC studies might provide more ways to rationally modify these measures.
- TEMP-04-Peds: Intraoperative Normothermia: I performed the Temp-04 review last year and found opportunities for warming in longer cases but no specific service line targets. We excluded GI cases but might exclude other lines where the metric isn't meaningful. We felt we were already doing a lot in this area and current flagged cases might not have much impact through new interventions.
- NMB-01: Train of Four Taken: The TOF documentation had an 18% success rate initially, which highlighted issues like laziness, lack of culture for checking, or documentation errors. Implementing a BPA reminder has already improved our success rate to 58%.
- NMB-03-Peds: NMB Dosing: A detailed literature review, revealed some unfamiliarity with the recommendation. We saw potential for improvement but noted some provider discomfort with omitting RSI doses in long cases and the impact of Sugammadex.
- SUS-05-Peds: Nitrous Avoided, Induction: We decided against this sustainability metric as we had already unplugged nitrous and were doing well.

- SUS-06-Peds: Low Fresh Gas Flow, Pediatric Induction: Our low flows for induction and maintenance were below goal with a 72% pass rate. Years ago, we defaulted our machines to 3 liters per minute, leading to an automatic pass for all age groups. Higher flows indicated manual adjustments by providers. We decided to move forward with addressing this. We emphasized the change in nomenclature, noting that flagged cases are opportunities for improvement, not dings against providers. We implemented BPA reminders and laminated cards, hoping to see improvement.

Discussion:

- *Lucy Everett (Mass General)*: We had some issues with NMB mapping that we fixed, with some improvement. I think many people still think the time basis for satisfying reversal still applies. The new ASA guidelines state that if it's been 4 hours since Rocuronium, you don't need to reverse, but this isn't included in the measures. Many flagged cases fall into that category, and we need better education that this practice is no longer correct.
    - *Vikas O'Reilly-Shah (Seattle Children's) (Seattle Children's)*: Yes, the assumption is that documenting a qualitative TOF doesn't show quantitative reversal to TOF 0.9. Providers may not document a TOF of 4/4 on a clinically strong patient. In every drawer, we have qualitative monitors and twitch view devices in most ORs, but our rooms aren't routinely stocked with stickers. There's a feeling about the ability of Sugammadex to rescue all patients. The rate at which we put the monitor stickers on is low. Documenting TOF at the end of the case has improved, but we might hit a ceiling due to these issues.
    - *Morgan Brown (Boston Children's)*: We've been pushing for using quantitative monitors at Boston, finding it necessary, especially in teenagers. Things we were previously taught about NMB monitoring doesn't apply. Some patients who you don't expect to need reversal do in fact need it. It may not apply in infants, but we'll learn more as more MPOG sites work on this and contribute data. We don't know the appropriate doses of Sugammadex for most children either. This is a fascinating area of study. Though the smallest patients might not benefit as much, using quantitative monitors helps us understand trends and improve practice.
- *Nirav Shah (MPOG QI Director)*: At Seattle Children's, did you have a threshold for too many measures for provider feedback?
    - *Vikas O'Reilly-Shah (Seattle Children's) (Seattle Children's)*: We opted against provider feedback due to cultural concerns and fear of it being punitive. We're starting with departmental performance presentations and will consider individual feedback if we see high-impact opportunities. We emphasize non-punitive, department-wide improvement rather than individual metrics. Service lines and homogenized sets of cases make provider-level emails less attractive for us.
    - *Ruchika Sharma (University of Virginia):* So, you're presenting departmental data but not individual provider report cards?

    - *Vikas O'Reilly-Shah (Seattle Children's)*: Yes, we present departmental performance during staff meetings and disseminate PowerPoint slides. Individuals can access their own data if subscribed to that tier.
    - *Ruchika Sharma (University of Virginia):* Do all division department anesthesiologists have access?
    - *Vikas O'Reilly-Shah (Seattle Children's)*: In order for individuals to access their own data, you need a bump-up subscription. The departmental performance dashboard is only for practice leaders with approval to look at performance across the department and individual providers. We gave everyone on the committee departmental access, but it's not broadly available.
    - *Morgan Brown (Boston Children's)*: We followed a similar approach in Boston, starting with departmental presentations and moving to individual feedback. It's important for people to see their own data to understand and improve their performance. Once people see it's non-punitive, it's reasonably well-received.
- *Ruchika Sharma (University of Virginia):* Do you typically use qualitative or quantitative for infants?
    - *Vikas O'Reilly-Shah (Seattle Children's)*: We mostly use qualitative. Uptake of quantitative monitoring is limited to certain cases. For infants, the sensors can be imperfect, but it gives a sense of the trend pre- and post-reversal.

Vikas O'Reilly-Shah (Seattle Children's): We can continue the discussion offline on Basecamp or via email. I'll now turn it over to Nirav for the Performance Review session and ask that all non-MPOG contributing members drop off at this time. Thank you.

Unblinded Performance Review Session

SUS-06-Peds: Low Fresh Gas Flow, Induction

Nirav Shah (MPOG QI Director): This includes patients less than 18 years old, with the mean fresh gas flow equal to or less than a weight-based threshold that was discussed and approved at the Quality Committee when the measure itself was proposed.

If you look at performance across pediatric hospitals, there's wide variation, which makes it a prime candidate for development as a quality measure. Meridith did a couple of things on these slides. On the left side is Performance, and on the right side, the Y axis denotes the denominator, so the number of included cases. You can start to see high, medium, and low volume sites, which is interesting because there are challenges related to the type of pediatric institution and volume of cases. The impact is different when you're making a changeover large number of cases versus smaller numbers. If you look at this, you see a couple of high performers. Site A, of course, has done amazing work. Site B has also clearly focused on this.

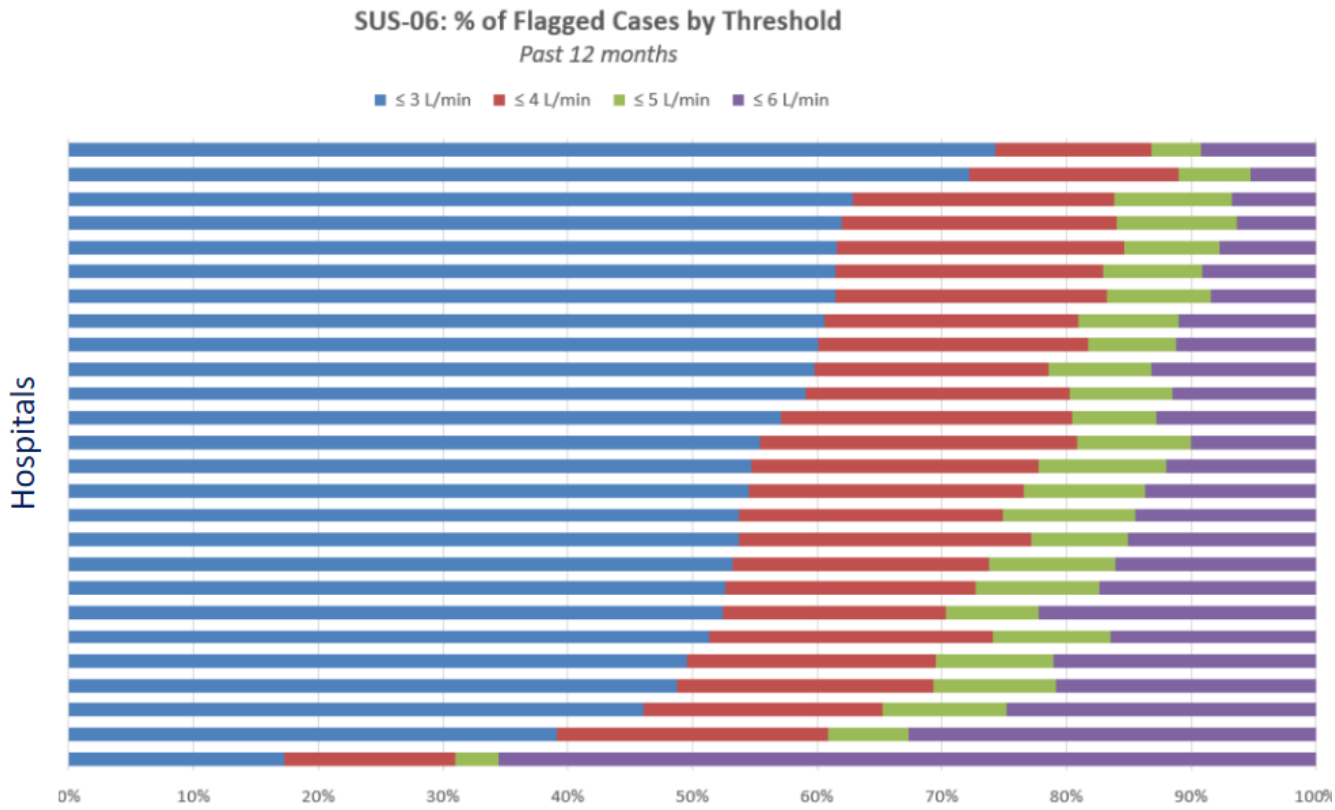
- Site B, if you're on, I'd love to hear if this is something you've focused on or if you're naturally adhering to these standards.

    - Site B: We have sustainability champions involved in the ASPIRE data, pushing this initiative. It came down to simply changing the defaults on our GE anesthesia machines to cut back on the ability for providers to default to 10 liters during induction. It's been pretty simple.
- *Nirav Shah (MPOG QI Director)*: Is the default weight-based or a single default?
    - Site B: It's not weight-based; our default is set at 2 liters total. Providers do bump up their flows initially but generally adhere to the 2 liters default. We encourage meeting metrics to ensure higher reimbursements, which drives compliance.
- *Nirav Shah (MPOG QI Director)*: Thank you. For those unfamiliar with our work in Michigan, Blue Cross Blue Shield funds hospitals to join MPOG and has several reimbursement programs based on MPOG QI measure performance. This model seems effective in driving behavior change.

Nirav Shah (MPOG QI Director): Site C is a site at the other end of performance for SUS-06. Have you changed your defaults, or do you have pediatric and adult patients in the same area?

- *Site C*: We are separate institutions; we don't do adults here. We haven't changed the defaults; they are set by the provider.
- *Nirav Shah (MPOG QI Director)*: It sounds like the default setting may be a significant factor. Does anyone else have comments on default values or mechanisms driving behavior if this measure is a focus?
    - *Vikas O'Reilly-Shah (Seattle Children's)*: Defaults help, but during hyperventilation, I sometimes exceed the threshold to keep up with minute ventilation and prevent dilution of the gas. Defaults help, but patient dependence and the absence of nitrous oxide make a difference. The goal may need adjustment.
    - *Site C:* Education is also key. I'm not sure how much of a priority this metric has been at our institution, but it's an opportunity. Cultural biases towards rapid induction with higher flows also play a role.
    - *Site D*: At our site, we had laminated charts showing weight and flows on every machine. This worked well, but most have fallen off, leading to a return to default flows.
    - *Nirav Shah (MPOG QI Director)*: Quality improvement is often about simple things. Site D, have you changed your default values?
        - *Site D*: No, they're set at 8 liters.

Nirav Shah (MPOG QI Director): For those in pediatric anesthesia, this slide may be expected. Most flagged cases involve smaller patients under 3 liters per minute, likely due to default values, education, and site focus.



- *Charles Schrock (St. Louis Children's):* SUS 06 success does not account for the patient undergoing inhalation induction who begins to hyperventilate during stage 2. In such a patient, attempts to keep to target will markedly prolong induction through depressed Fi Agent that happens when ventilation much greater than fresh gas flow transiently
- *Ruchika Sharma (University of Virginia*: I thought the second gas effect with nitrous was old wives' tale! No!
- *Vikas O'Reilly-Shah (Seattle Children's)*: Not second gas effect, but simply just having a second synergistic anesthetic agent in the mix. I think our experience highlights that defaults can only take you so far. Charles' comment is pertinent. I've found this to be true, especially during the stage two hyperventilation, where I sometimes need to increase the flow rate to keep up with minute ventilation and prevent dilution of the gas. This often leads me to exceed the threshold. Defaults get you part of the way, but patient dependence and the absence of nitrous oxide, which provides the benefit of a second agent during induction, can influence this. Therefore, the goal might need to be adjusted. Maybe the goal shouldn't be 90%, but perhaps 80%. While defaults certainly help, they aren't the complete solution.

Jeana Havidich (Vanderbilt): Have you calculated the cost savings associated with low fresh gas flows?

- *Vikas O'Reilly-Shah (Seattle Children's)*: Liz [Hansen] has. Since 2018, we've saved a few hundred thousand dollars in sevoflurane purchasing and are decommissioning our central nitrous plant due to leaks.
- *Liz Hansen (Seattle Children's)*: Our cost for sevoflurane in 2018 was, $200,000 a year and now we're down to $73,000 a year, and then we took desflurane off formulary. So that's a cost

savings nitrous is our, as the cost said, like it's really cheap. And then you have the big losses with the leaky system. So even with, you know, almost no clinical use, we're still buying a lot of nitrous, because our system is is leaky, but we're decommissioning it. So we will have that cost savings eventually.

- *Lucy Everett (Mass General):* At MGH for all cases (not just pedi) it is $120K/year on sevoflurane purchasing.

Nirav Shah (MPOG QI Director): I thought this was kind of interesting from Site E. In September of 2023, there was a dramatic change that significantly impacted performance. Specifically, for the 6 liters per minute group, which includes the bigger kids, performance increased from around 15% to about 80%

- *Site E*: Our fellows actually did a QI project related to decreasing the fresh gas flows at our institution over this very time period. We changed our preset flows that automatically come on when you start induction as part of this QI project. I think that had the biggest impact here.

SUS-05-Peds: Nitrous Avoided, Induction

Nirav Shah (MPOG QI Director): This measures the percentage of pediatric patients under 18 years old where nitrous oxide is avoided during induction. Everyone is pretty much included in this measure. If you go down the list, you'll see that some sites perform well, while others still use nitrous for various reasons. I used to be a big user of nitrous until they shut the pipes off. Maybe someone who has turned the pipes off, either from the University of Michigan or another place, can share their experience with feedback from providers. I know there are still canisters that can be used. I'm curious about that experience.

- *Lisa Vitale (University of Michigan):* In my experience at the University of Michigan, it has decreased the use of nitrous. I still see some people who want to use it. It's not a big part of my practice, so it's still available for use. However, overall, its use has significantly decreased. There were some frustrations from people who really like to use it, but I think everyone has adapted well.

Nirav Shah (MPOG QI Director): Anyone else on the call have experience or thoughts on whether we should be turning the pipes off everywhere? Can we leave the pipes on? Is it okay not to use nitrous as part of induction? I'm curious about the pediatric experience that folks have had.

- *Lucy Everett (Mass General):* We're still in the process of doing a pilot. My understanding from everyone who has compared utilization data to purchasing data is that there's such a huge leak that it doesn't make sense not to switch to cylinders. If people want to use it, they can open a cylinder. If you do it in conjunction with cutting your flow rates, it's much easier to accomplish. You don't need to use as many E-cylinders, and you can reassure people that the techs aren't going to be running around carrying cylinders all the time.
- *Nirav Shah (MPOG QI Director):* Yes! Do you mind me asking about your own practice? Do you use nitrous? Do you let the residents decide?
- *Lucy Everett (Mass General):* Yes, I use it occasionally, very briefly, if I have a cooperative child and think it might make a difference in the induction. But I turn it off very quickly. In the majority of cases, I don't use it.

Nirav Shah (MPOG QI Director): Any other thoughts or comments on successful SUS-05? I think we have time for maybe one or two more slides.

- *Liz Hansen (Seattle Children's):* I just wanted to add really quickly about the Cascadia Nitrous Oxide Collaborative on nitrous oxide mitigation. We just did another webinar last week. There's a playbook and a webinar recorded online that are free to access. They cover the nitrous oxide leak issue and practical tips and information on measuring the leak and working with your hospital and facilities to decommission or stop using the central supply. I'll put some of those links in the chat for people who want to take a look.
    - Collaborating to prevent massive nitrous oxide waste in medical gas systems (Webinar)
    - Discontinuing use of piped nitrous oxide systems in healthcare facilities (Playbook)
- *Eva Lu-Boettcher (University of Wisconsin):* One of the things we noticed after multiple discussions with stakeholders who use nitrous oxide was the need to decentralize our nitrous supply. Anesthesia, at least in our institution, has been leading in helping other specialties understand the sustainability aspects of the tremendous amount of nitrous leak. For example, the Peds and P. Sedation departments were among the bigger groups that gave us pushback because they use it in their sedation. The ED uses it when they need to sedate kids. It was refreshing to teach our colleagues about the importance of decentralizing the supply, given the 95% leak we have at our institution. These facts surprised them a bit. Our providers accepted the use of portable cylinders well. We did a demo on how to turn them on and off, which was straightforward. This is part of our Peds teaching for residents as well. Plastic surgery and dermatology were considering using this in their clinics. They were surprised by how polluting it is and were deterred from using it in clinical practice. It's great to see anesthesia leading in promoting sustainability and cutting nitrous use in other specialties as well.
    - *Nirav Shah (MPOG QI Director):* Yes, absolutely. We can see from Wisconsin's performance that you have been leading in this at your institution.

Wrap Up:

Vikas O'Reilly-Shah (Seattle Children's): Thanks so much for this review. I think we had a great discussion. We want to be respectful of people's time and wrap up here. Just a reminder about the meeting in Philadelphia. If any questions come up in the interim, please feel free to reach out offline. We may potentially reach out to see if there's any interest in doing some additional measure reviews ahead of schedule. Thanks, appreciate your time.

Meeting Concluded @ 1702