Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Quality Committee Meeting Notes – Monday, May 20th, 2024

Attendance:

Abess, Alex (Dartmouth)	Lewandowski, Kristyn (Corewell)
Addo, Henrietta (MPOG)	Lopacki, Kayla (Mercy Health - Muskegon)
Agerson, Ashley (Spectrum)	Lou, Sunny (WUSTL)
Armstrong-Browder, Lavonda (Henry Ford)	Lozon, Tim (Henry Ford - Wyandotte)
Barrios, Nicole (MPOG)	Mathis, Mike (MPOG)
Bauza, Diego (Weill Cornell)	Malenfant, Tiffany (MPOG)
Berndt, Brad (Bronson)	McKinney, Mary (Corewell Dearborn / Taylor)
Bollini, Mara (WUSTL)	Mentz, Graciela (MPOG)
Bow, Peter (Michigan)	Milliken, Christopher (Sparrow)
Bowman-Young, Cathlin (ASA)	O'Conor, Katie (Johns Hopkins)
Brennan, Alison (Maryland)	O'Dell, Diana (MPOG)
Buehler, Kate (MPOG)	Ostarello, Claire (ASA)
Charette, Kristin (Dartmouth)	Owens, Wendy (MyMichigan - Midland)
Chopra, Ketan (Henry Ford - Detroit)	Pace, Nathan (Utah)
Clark, David (MPOG)	Pantis, Rebecca (MPOG)
Coleman, Rob (MPOG)	Pardo, Nichole (Corewell)
Collins, Kathleen (St. Mary Mercy)	Parks, Dale (UAB)
Colquhoun, Douglas (MPOG)	Pennington, Bethany (WUSTL)
Corpus, Charity (Corewell Royal Oak)	Perkaj, Megan (Corewell)
Cywinski, Jacek (Cleveland Clinic)	Pimental, Marc Phillip (B&W)
Dewhirst, Bill (Dartmouth)	Poindexter, Amy (Holland)
Domino, Karen (Washington)	Qazi, Aisha (Corewell)
Doney, Allison (MGH)	Richardson, Chelsea (Henry Ford Allegiance)
Drennan, Emily (Utah)	Roselinsky, Howard
Elkhateb, Rania (UAMS)	Rozek, Sandy (MPOG)
Esmail, Tariq (Toronto)	Ruiz, Joseph (MD Anderson)
Finch, Kim (Henry Ford Detroit)	Saffary, Roya (Stanford)
Goatley, Jackie (Michigan)	Schwerin, Denise (Bronson)
Goldblatt, Josh (Henry Ford Allegiance)	Scranton, Kathy (Trinity Health St. Mary's)
Hall, Meredith (Bronson Battle Creek)	Shah, Nirav (MPOG)
Harwood, Tim (Wake Forest)	Smiatacz, Frances Guida (MPOG)
Heiter, Jerri (St. Joseph A2)	Stam, Benjamin (UMHS West)

Hosko, Lisa (Corewell, Troy)	Stanislaus, Mellany (Johns Hopkins)
Janda, Allison (MPOG)	Stierer, Tracey (johns Hopkins)
Jervis, Karinne (Dartmouth)	Stewart, Alvin (UAMS)
Jewell, Elizabeth (MPOG)	Tyler, Pam (Corewell Farmington Hills)
Johnson, Rebecca (Spectrum & UMHS West)	Vitale, Katherine (Trinity Health)
Kaper, Jon (Corewell Trenton)	Wade, Meredith (MPOG)
Karamchandani, Kunal (UT Southwestern)	Wedeven, Chris (Holland)
Kenron, Dan (OHSU)	Weinberg, Aaron (Weill Cornell)
LaGorio, John (Trinity Muskegon)	Yuan, Yuan (MPOG)
Lalonde, Heather (Trinity Health)	Zhao, Xinyi (Sarah) (MPOG)
Liu, Linda (UCSF)	Zhu, Shu (Columbia)
Liwo, Amandiy (UAB)	Zittleman, Andrew (MPOG)

Agenda & Notes

Meeting Start: 1002

1) **Agenda**

2) **Roll Call**: Via Zoom or contact Coordinating Center (support@mpog.zendesk.com) if you were present but not listed on Zoom.

3) **Minutes from February 26, 2024**

4) **Announcements**
   a) Data Direct application is currently down
      1) Should be up and running in a few days
      2) Email to follow with more information
   b) Precision Feedback Trial Launching
      1) Full scale launching Wednesday May 22, 2024!
      2) All eligible sites (46) opted in. Thank you!
      3) 23 to receive same email. 23 sites to receive updated “precisionized email”
      4) Opt out email to providers sent out
      5) Thank you in advance for meeting your upload deadlines, especially during the next 6 months. Please let the coordinating center know of any potential delays
   c) Featured Member – May and June
      1) Julio Benitez, MD – MyMichigan Health – Midland Medical Center
   d) Congratulations to Dr. Bhiken Naik & Team on their publication in Journal of Neurosurgical Anesthesiology:
      1) Variability in Intraoperative Opioid and Nonopioid Utilization During Intracranial Surgery: A Multicenter, Retrospective Cohort Study

5) **2024 Meetings**

a) Friday, July 12, 2024: ASPIRE Collaborative Meeting, Henry Executive Center, Lansing, MI
b) Friday, September 13, 2024: ACQR Retreat, Henry Executive Center, Lansing, MI
c) Friday, October 18, 2024: MPOG Retreat, Philadelphia, Pennsylvania
d) **Upcoming Events**

6) Subcommittee

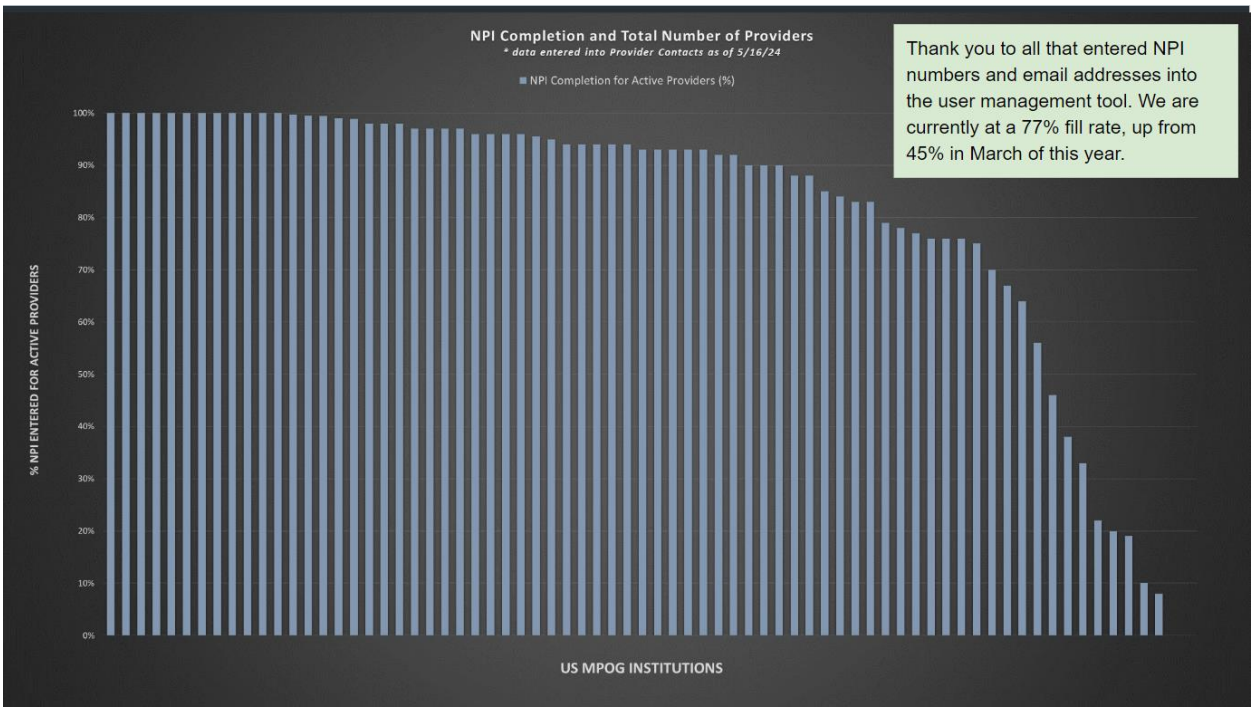
a) Pediatric Subcommittee met 5/13/2024
   1) Minutes will be posted to the Archived Events section of the MPOG website
b) Cardiac Subcommittee meeting: June 24th, 2024, 2-3pm EST
c) Obstetric Subcommittee meeting: May 22nd, 2024, 1-2pm EST
   1) Registration required as unblinded data will be shared. Please register by 5pm EST today if you would like to attend.
   2) Agenda
      (i) Unblinded measure review of TEMP-05-OB
      (ii) Review BMI data
      (iii) Two measure revision proposals: BP-04-OB and GA-03-OB
      (iv) New measure proposal for Azithromycin

7) MPOG Application Suite Upgrade: Now Available!

a) Upgrade package sent to each site's IT contact (if you don't know who this is for your site, contact support@mpog.zendesk.com)
b) Sites using Desktop Virtualization (e.g. Citrix)
   1) Your site's IT team will upgrade the App Suite
c) Users using the App Suite installed on their PC
   1) Your site's IT team will distribute the installer to all individuals at their site after the database upgrade has been applied.
d) Release Notes

8) NPI Completion and total number of providers

a) NPI completion for active provider (%)



9) Measure Review: TRAN-01: Dr. Jacek Cywinski, Cleveland Clinic

a) Description: Percentage of adults receiving a blood transfusion with documented hemoglobin or hematocrit value prior to administration.

b) Exclusion criteria:

1) ASA 5 & 6 including Organ Procurement
2) Cesarean delivery cases with EBL > 1500cc or HR >110, SBP <85, DBP <45, O2Sat <95%
3) Massive blood loss with EBL ≥ 2000 mL and/or 4 or more units of blood transfused
4) Postpartum hemorrhage
5) Procedures:
   (i) Burn cases
   (ii) Cardiac cases (determined by Procedure Type: Cardiac value codes > 0)
   (iii) Labor epidurals (determined by the Obstetric Anesthesia Type value codes: 3 & 6 including obstetric non-operative procedures)

c) Success criteria: Documentation of hemoglobin and/or hematocrit within 90-minutes prior to blood transfusion

d) Other Measure Details:

1) For the first unit of transfusion, a hemoglobin or hematocrit of any value should be checked in a time period of 0-90 minutes before the transfusion, or the most recent documented hemoglobin or hematocrit of less than 8/24 should be within 36 hours of the transfusion.
2) If the last hemoglobin or hematocrit drawn before the first transfusion is ≤ 5/16, a second unit could be administered without rechecking hemoglobin/hematocrit.
3) If multiple units are administered, documentation of a hemoglobin or hematocrit value must be present within 90 minutes before each administration.

e) Review of new literature

1) Between 2021 and now: **no new recommendations for transfusion triggers**

2) Restrictive transfusion strategies, typically with a threshold of **7 g/dL** for both adult and pediatric patients are still recommended
3) 7.5 g/dL for patients undergoing cardiac surgery and 8 g/dL for those undergoing orthopedic surgery or those with preexisting cardiovascular disease
4) Review of 45 RCTs following GRADE methodology:
   (i) For hospitalized adult patients who are hemodynamically stable, a restrictive transfusion strategy considering transfusion when the hemoglobin concentration is less than 7 g/dL (strong recommendation, moderate certainty evidence)
   (ii) In accordance with restrictive strategy threshold used in most trials, clinicians may choose a threshold of **7.5 g/dL for patients undergoing cardiac surgery and 8 g/dL for those undergoing orthopedic surgery with preexisting cardiovascular disease**
5) Hemoglobin should be routinely measured before every intraoperative transfusion **if the situation permits**
6) Hemoglobin should be measured between successive intraoperative transfusions in cases where multiple units are being transfused, **situation permitting**
7) **There is uncertainty surrounding** the benefits and risks of restrictive transfusion protocols in the operating room
8) Restrictive transfusion strategies **should be adopted for intraoperative transfusions**, which would include a restrictive hemoglobin transfusion threshold or trigger
9) **7 g/dL** is an acceptable restrictive hemoglobin trigger to use in the operating room for patients without major cardiac comorbidities

f) Limitations and gaps in knowledge
1) In a clinical practice decision to transfused in based not only on absolute value of the Hgb/Hct but overall clinical scenario
2) Trials specifically designed to address intraoperative transfusions are needed
3) A patient-centered individualized red cell transfusion approach is recommended, but there is little evidence of which objective physiologic parameters should guide the decision intraoperatively

g) Appropriateness of rationale
1) TRAN-01 is a process measure, and it represents the best practice of evaluating **one** of many aspects of the decision-making process to transfuse red blood cells
2) The decision to transfuse, in most of the intraoperative scenarios, is based on **multiple factors not captured nor adjusted for in a calculation of TRAN-01 success rate**
3) Nevertheless, the measure promotes a responsible approach to red cells transfusion

h) Inclusion/Exclusion criteria
1) Inclusion and exclusion criteria are appropriate, however complete exclusion of cardiac cases should be considered if capturing complete data is feasible (Hgb/Hct recorded by perfusionist, EBL, etc.)
2) Consider:
   (i) Change the requirements to recheck Hgb/Hct in between units if **Hgb/Hct ≤ 7/21** (as opposed to 5/16)
   (ii) Adding (if possible) hemodynamic or vasopressor requirements to metric exclusion

i) Evaluation of definition of success or flagged cases

1) Definition of success is appropriate
2) **If feasible**, cases with unstable hemodynamics should be excluded in calculation of the measure success
3) Current TRAN-01 Performance across MPOG
   (i) April 2023 – March 2024 Performance range 0 – 100%

j) Evaluation of provider attribution logic
1) It is appropriate to attribute the measure to providers signed into the case at the time of transfusion

k) Other feedback
1) Decision to transfuse red cells considers multiple factors including laboratory value, comorbidities, clinical scenario, and hemodynamic variables. As the ability of MPOG to capture these parameters evolves, contextualizing intraoperative transfusion would help to provide more meaningful feedback
2) Inclusion of cardiac cases should be considered **IF** all necessary data elements can be captured to calculate success

l) Discussion:
1) *Kunal Karamchandani (UT Southwestern) via chat:* I agree that the in between Hb threshold should change to 7/21
   (i) *Nirav Shah (MPOG Quality Director)*: Current threshold where providers are not required to check Hgb/Hct in between transfusions is 5/16. With this update, if a Hgb of 7 or Hct of 21, no hgb/hct would need to be rechecked after the first unit of blood. . When the measure was developed 6 or 7 years ago now, it focused on checking a Hgb or Hct in between each unit, so we could identify cases where a 2nd unit may not have been indicated, because the first unit would have been sufficient. In a hemodynamically unstable patient we recognizesometimes, despite a stable hgb/hct level, providers may choose to administer a unit of blood in addition to vasopressor or fluids. This is reflected in the threshold for the measure.
2) *Michael Mathis (MPOG Research Director) via chat:* I would argue that patients who are hemodynamically unstable or on vasopressors, are the patients who likely benefit the most from transfusion. Probably not an exclusion criterion, but rather something to bring to the attention of person reviewing the case/measures in order to provide more clinical context, and consider on a case-by-case basis
   (i) *Nirav Shah (MPOG Quality Director)*: Would you like to expand on that as it relates to checking a Hgb or Hct in between transfusions?
   (ii) *Michael Mathis (MPOG Research Director)*: We can include cases that after review, we can see that there was not anything to do differently for the case. An example is a patient that is hemodynamically unstable or on vasopressors, sometimes a vasopressor is started in place of transfusing, or sometimes you check the Hgb or Hct because the patient is on a vasopressor. Not every flagged case is an opportunity to improve but can be used as a critical reflection of what happens in cases like these. Cardiac cases, they are different in regard to hemodynamics and pathophysiology and the solution in the future might be a separate QI measure for cardiac cases.
   (iii) *Nirav Shah (MPOG Quality Director)*: Allison, has this come up as a topic within the

cardiac subcommittee either looking at transfusion management in general or specifically related to checking Hgb or Hct?

(iv) *Allison Janda (MPOG Cardiac Subcommittee Chair):* It was brought up a few meetings ago. The cardiac subcommittee will be interested in discussing further, but we haven't attempted to refine measures for it formally yet.

(v) *Nirav Shah (MPOG Quality Director)*: It is worth bringing up again given that there are so many research articles looking at transfusion in cardiac cases.

(vi) *Tariq Esmail (University Health Network) via chat*: Apologies if this was mentioned as I joined late, but would it be useful to consider a specific threshold for vasopressor use rather than any vasopressor use as an exclusion. Many patients may be on low dose vasopressors and be considered stable and would be excluded if we decide to exclude patients on any vasopressor.

(vii) *Josh Goldblatt (Henry Ford Health System) via chat*: Do we know how many of the flagged cases across ASPIRE are due to initial vs subsequent units transfused?

(viii) *Kunal Karamchandani (UT Southwestern*) via chat: Rechecking often delays transfusion and may compromise patient outcomes.

a. *Kunal Karamchandani (UT Southwestern)*: One of our junior faculty was using this measure for a QI project and one of our concerns, as Dr. Jacek mentioned, Hgb is not the only trigger. If I have an actively bleeding patient, I am not going to keep checking Hgb. I am going to keep transfusing. If transfusion time between the first and second units is less than 5 or 10 minutes, it indicates active bleeding. Rechecking a Hgb depends on which institution you're in, and it may take time and then you're compromising patient safety if that's something that you are aggressively looking for. If we want to continue checking for Hgb or Hct between subsequent units, let's create a time frame. If the next unit was given after 30 minutes, then it is relevant that a Hgb or Hct is checked. If the next unit is administered between 5 or 10 minutes, then that should be an exclusion.

b. *Nirav Shah (MPOG Quality Director)*: When the measure was being built, the discussion around cases to exclude from this measure were cases like massive bleeding and massive transfusion, where patients are given 4 units or more with a documented significant blood loss. What this measure is trying to avoid are the times where 2 units may be administered, then when a Hgb or Hct level is checked, it's higher than expected. When Dr. Liu talks about TRAN-02, the rates in which final Hgb or Hct are greater than 10 or greater than 30, may indicate that you have given an extra unit of blood.

c. *Michael Mathis (MPOG Research Director)*: Both can be true. We might not want to exclude and place it in the hands of the person reviewing the measure to decide if this case is acute hemorrhage and I just gave 2 units very quickly and that was appropriate. Versus this was a case that transfusion was discretionary, and I should not have perhaps administered the second unit.

d. *Nirav Shah (MPOG Quality Director)*: As Quality Champions, it is important for us to let providers know that the flag is just an opportunity for review, and we are

going to have instances where we give multiple units of blood without checking Hgb or Hct values. Hopefully the measure threshold covers these scenarios as 90% is defined as success as this measure, not 100%.

(ix) *Josh Goldblatt (Henry Ford Health System) via chat:* has the team at MPOG done a correlation analysis between TRAN-01 and TRAN-02?

a. *Nirav Shah (MPOG Quality Director)*: There has been not been a research project related to this brought to PCRC, but it would be a fantastic project to do to see if those sites that check Hgb or Hct between units have a lower number of cases where the final transfusion is greater than 10 or 30. Mike, have you seen something like this at PCRC?

b. *Michael Mathis (MPOG Research Director):* No, but I will be thrilled to support somebody in doing this type of valuable project. Let our research team know.

Sunny Lou (UCSF)): I've looked at the correlation between TRAN-01 and TRAN-02 and they are highly correlated. I had a research project where I used TRAN-01 and TRAN-02 as covariates. I was looking at institution level, and average compliance or adherence to TRAN-01 vs TRAN-02. I looked at 45 institutions in my study and they were highly correlated. But if you are looking at individualized studies, that is not what I looked at.

(x) *Nirav Shah (MPOG Quality Director):* Any final comments from you Jacek before voting?

(xi) *Jacek Cywinski (Cleveland Clinic):* Conceptually, the measure is very valuable. It brings attention to the detail when you decide about a transfusion. The devil is in the granularity when you examine at the individual case. We just must somehow balance how much granularity we can afford and how much we can make it more real time representation of practice, rather than teasing out those cases inappropriately transfused rather than just looking at the dashboard.

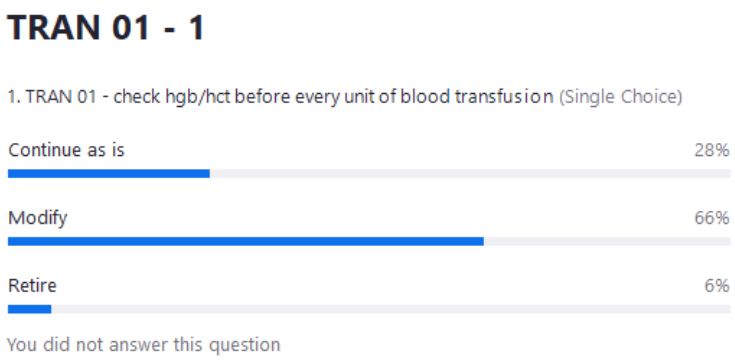
(xii) *Nirav Shah (MPOG Quality Director):* Unstable hemodynamics is a great point, and we've discussed this internally as well. For now, it is included in our measure threshold. Correlating those exact moments of hemodynamic instability and use of multiple pressors with those infusions of boluses will probably overcomplicate the measure. We will continue to look at that from a data perspective and see if we can include that in a future discussion.

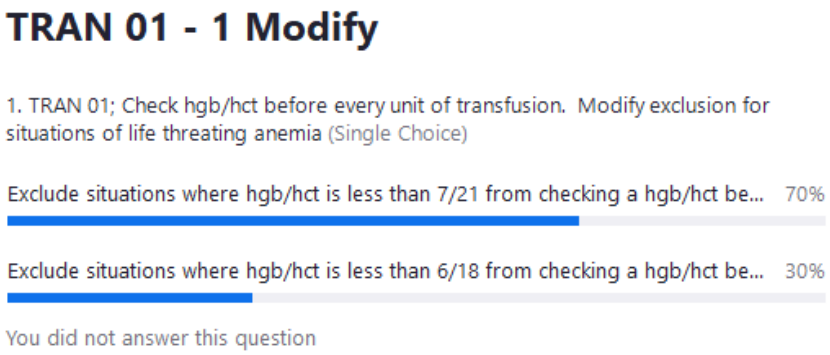
(xiii)

(xiv) TRAN-01: Transfusion Management Vigilance Vote

a. 1 vote/ site
b. Continue as is
c. Modify
d. Retire: Need > 50% to retire measure

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





Next steps:

3) Will modify measure to update exclusion for rechecking between units from 5/16 to 7/21.
4) Will request Cardiac Subcommittee review of the measure to determine whether cardiac cases should be included or separate transfusion measure for cardiac cases is more appropriate

10) Measure Review: TRAN-02 – Dr. Linda Liu, University of California – San Francisco

a) Description: Percentage of adult patients with a post transfusion hemoglobin or hematocrit value greater than or equal to 10 g/dL or 30%.
b) Exclusion criteria:
   1) Age < 18 years
   2) ASA 5 & 6 including Organ Procurement
   3) Cesarean delivery cases with EBL > 1500cc or HR >110, SBP <85, DBP <45, O2Sat <95%
   4) Massive blood loss with EBL ≥ 2000 mL and/or 4 or more units of blood transfused
   5) Postpartum hemorrhage
   6) Procedures:
      (i) Burn cases
      (ii) Cardiac cases (determined by Procedure Type: Cardiac value codes > 0)
      (iii) Labor epidurals (determined by the Obstetric Anesthesia Type value codes: 3 & 6 including obstetric non-operative procedures)
c) Success criteria: Documentation of hemoglobin and/or hematocrit within 90-minutes prior to

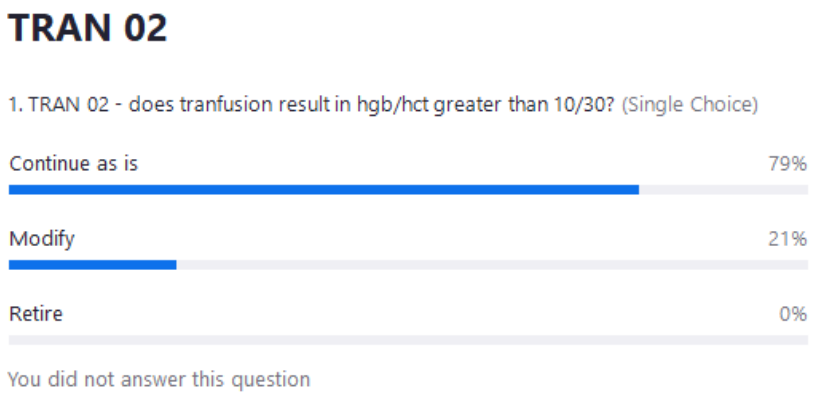
blood transfusion

d) Discussion:

1) *Kunal Karamchandani (UT Southwestern) via chat*: The spine surgery paper reference in the TRAN-02 review was from our institution and hence we follow a higher threshold for spine surgery at our institution.
2) *Nirav Shah (MPOG Quality Director):* This is an inverse measure. Performance across MPOG shows a wide variation of performance. From a Coordinating Center perspective, when this measure was initially built, we made a very intentional choice to pass cases both with a transfusion Hgb and Hct less than 10/30 respectively, but also to pass cases that didn't have a hgb or hct result within 18 hours after the last transfusion. The reason for this is that if you want to look at the rates of post transfusion Hgb or Hct, it should be a separate complimentary measure where you look specifically at post-transfusion recheck rates instead of making it part of the pass/fail/exclusion criteria for this measure. In reviewing passed TRAN-02 cases, Quality Champions can decide if there is an opportunity to change some policies regarding checking post-transfusion hct and hgb.
3) *Josh Goldblatt (Henry Ford Health System)*: Our Quality Champion at Henry Ford is interested in raising the hgb threshold closer to 12 because of the different types of cases.
4) *Nirav Shah (MPOG Quality Director):* This measure is broad and includes many types of cases so not sure a hgb of 12 would be warranted in most circumstances. Thank you for bringing this forward for consideration.

e) TRAN-02: Overtransfusion Performance across MPOG
   1) April 2023 – February 2024 Performance range 0 – 100%
f) Transfusion Management Vigilance Vote
   1) 1 vote/ site
   2) Continue as is
   3) Modify
   4) Retire: Need > 50% to retire measure

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



g) **Next steps:**

1) Continue the measure as is.
2) Update QI dashboard to report both reasons for passed cases

Meeting Adjourned: 1101
Next meeting: July 22nd, 2024