Multicenter Perioperative Outcomes Group (MPOG)
PCRC Meeting Notes – Monday, April 14, 2014

Attendees: P=Present; A=Absent; X=Expected Absence

Active PIs		**In Progress PIs Continued**	
A	Michael Avidan, MD - Wash U	**P**	Leif Saager, MD – Cleveland Clinic
P	Michael Aziz, MD - OHSU	**P**	Robert Schonberger, MD - Yale
A	Mitchell Berman, MD - Columbia	**A**	Scott Springman, MD – Wisconsin
P	Daniel Biggs, MD – Oklahoma		
A	Robert Craft, MD –Tennessee	**Chairs**	
P	Douglas Colquhoun, MD –Virginia	**A**	David Adams, MD - Vermont
P	Jurgen de Graaft - Utrecht	**A**	Wolfgang Buhre, MD - Utrecht
P	Marcel Durieux, MD, PhD- Virginia	**A**	David Brown, MD – Cleveland Clinic
P	Jerry Epps, MD - Tennessee	**A**	Michael Cahalan, MD - Utah
P	Jesse Ehrenfeld, MD - Vanderbilt	**A**	Jerry Epps, MD – Tennessee
P	Ana Fernandez-Bustamente, MD - Colorado	**P**	Alex Evers, MD – Wash U
A	Peter Fleishut, MD – Weill-Cornell	**A**	Jane Fitch, MD – Oklahoma
P	Alexander Friend, MD –Vermont	**A**	Hugh Hemmings, Jr., MD, PhD, FRCA - Cornell
A	Daniel Helsten, MD – Wash U	**A**	Thomas Henthorn, MD –Colorado
A	Sandra Holtzclaw, MD - Vanderbilt	**A**	Roberta Hines, MD, FANZA - Yale
P	Leslie Jameson, MD - Colorado	**A**	Jeffrey Kirsch, MD - OHSU
P	Sachin Kheterpal, MD - Michigan	**A**	G. Burkhard Mackensen, MD, PhD – U of Wash
P	Tim McMurray, PhD - Virginia	**A**	Mervyn Maze, MD - UCSF
P	Timothy Morey, MD - Florida	**P**	Timothy Morey, MD - UCSF
P	Bhiken Naik, MD – Virginia	**A**	Marco Navetta, MD – Santa Barbara Cottage
P	Nathan Pace, MD – Utah	**A**	Robert Pearce, MD, PhD - Wisconsin
P	William Paganelli, MD – Vermont	**A**	Howard Schapiro, MD - Vermont
P	W. Pasma - Utrecht	**A**	Wolfgang Schlack, MD - AMC
A	Kelley Smith, MD – Utah	**P**	Kevin Tremper, PhD, MD - Michigan
A	Wilton van Klei, MD – Utrecht	**A**	Warren Sandberg, MD, PhD – Vanderbilt
A	Jonathan Wanderer, MD - Vanderbilt	**A**	Howard Schapiro, MD - Vermont
In-Progress PIs		**A**	George Rich, MD – Virginia
A	Maged Argalious, MD – Cleveland Clinic	A	Wilton van Klei, MD – Utrecht
A	Brian Bateman, MD - MGH	**A**	Jeanine Wiener-Kronish, MD- MGH
A	Karen Domino, MD, MPH – U of Washington	**A**	Margaret Wood, MD - Columbia
P	Matthias Eikermann, MD - MGH	**MPOG**	
A	Bassam Kadry, MD - Stanford	**P**	Genevieve Bell
A	Fabian Kooij – AMC Amsterdam	**X**	Mark Dehring
A	Philip Lirk, MD – AMC Amsterdam	**P**	Michelle Housey
P	Bala Nair, PhD – U of Washington	**P**	Tory Lacca, MBA
A	Karen Nanji, MD, MPH – MGH	**P**	Amy Shanks, MS, PhDc
A	Marco Navetta, MD – Santa Barbara Cottage	**P**	Tyler Tremper
A	David Robinowitz, MD - UCSF	**P**	John Vandervest

Ground Rules for PCRC:

1. Each protocol must have specific testable hypothesis with data available in MPOG data structure

2. People requesting specific data elements must also supply that data type to MPOG. If you don't submit that data type currently, then you can't get that type of data type out. However, if you have a co-investigator from another site that does supply that data, then you can ask for that type of data. The reason is so someone on the research team understands the limitations of each data element being requested and used
3. To ensure that there is not a lack of clarity about what the status of the proposal is, each proposal will get the following overall decision at the end of each presentation and discussion
    a. Accept with minimal or no changes required
    b. Accept with major changes required
    c. Revise and reconsider at future meeting
    d. Reject
4. Meeting will be recorded to be shared later with members of MPOG via the MPOG website. There were no objections to this via the members that were on the call.

Agenda:

10:00 – 10:45	Proposal: A Model to Predict the Risk of AKI after Spine Surgery using the KDIGO Definition and Multicenter Perioperative Outcome Group Database
10:45 – 10:50	MPOG Executive Board Committee Election Results
10:50 – 11:20	BCBS funding, QI reports alpha demonstration
11:20 – 11:50	Discussion of MPOG Data Re-use, AQI integration
11:50 – 12:00	Matters arising

Presentation:

Title: A Model to Predict the Risk of AKI after Spine Surgery using the KDIGO Definition and Multicenter Perioperative Outcome Group Database

Proposed Authors: Douglas Colquhoun, MBCHB, MPH, Marcel Durieux MD, PhD, Tim McMurry PhD, Christopher Shaffrey MD, Sachin Kheterpal MD, MBA, George Mashour MD, PhD

Primary Institution: University of Virginia

Presented by: Bhiken Naik, MBBCh

Discussion Points:

- Two potential analytic plans
    - Model AKI with preop and intraop covariates and then identify independent predictors from a logistic regression model
    - Model AKI with preop covariates to calculate a propensity score. Divide the patients into x-tiles and then model for intraoperative covariates to determine independent predictors within each x-tile.

- A number of the factors are intraoperative factors, if it's feasible to incorporate into model this is a worthwhile thing to do
- This is a great study and giving people guidance as what to do is the OR regarding BP is very important. It would be valuable to incorporate the BP into a model. The question is how do you want to model BP?
- The redo-redo cases will have extensive blood loss probably
- Do you have any concerns for preop risk score based on patient co-morbidities and then based on those xtiles and then doing separate analyzes within each xtiles?
    - There are no concerns except for lack of statistical power
    - We will attempt to perform a regression within each xtile to determine that different levels of co-morbidities
- Previous work restricted the study population. UVA would probably supply more than 700 that was recently published.
- Which stage in the analysis are you trying to predict?
    - Interested in predicting the "risk" category which is Stage 1.
- Have you considered ordinal logistic regression so you can model all 3?
    - Yes that is a reasonable idea
- There are other ways to do cross-validation/internal validation? Maybe bootstrapping with replacement?
    - The study team is open to this
- What calibration displays will you use on the final model?
    - Penalized regression techniques? Does the team like to use them?
        - Tim is open to different penalized regression techniques but in a clinical setting it's probably best to minimize the number of predictors
- It may difficult to determine which are re-do's within the MPOG database.
- Is it possible to determine the number of levels that were operated on?
    - In Michigan's operative descriptive, we list the levels. Will need to ask each site if their operative procedural text incorporates the levels.
    - Vanderbilt will need to look at the postop surgeon notes
    - UVA – Patients with greater than 3 levels is just listed as greater than 3 levels.
    - Are billing codes helpful here?
        - It's extremely complex to do but we could try and work with the surgical billing folks more closely
    - We need to determine a systematic way of developing the methodology instead of going into the medical records. Any thoughts on systematic approach?
        - There are certain surgeon CPT codes that reflect the number of levels
        - Can look to see if anesthesia CPT codes have similar codes?
            - No anesthesia for spine surgery is one code
- Sachin is comfortable with having this study and PCRC-001 concurrently. Should we take spine surgery out of PCRC-001?
    - Should we say spine surgery excluded for a companion manuscript

Institution	Vote
Academic Medical Center (AMC), Amsterdam	**Accept with minor revisions**
Columbia	
Oklahoma University Medical Center	**Accept with minor revisions**
Oregon Health Science University	**Follow-up not on call**
University of Colorado	**Abstain**
University of Florida	**Accept with minor revisions**
University of Michigan	**Accept with minor revisions**
University of Tennessee	**Accept with minor revisions**
University of Vermont	**Accept with minor revisions**
University of Utah	**Accept with minor revisions**
University of Virginia	**PI**
Weill-Cornell	
Vanderbilt	**Accept with minor revisions**

Final Decision: Accept with Minor Revisions

MPOG Executive Board Committee Election Results

3-Year Term
Thomas Henthorn, MD (University of Colorado)
Alex Evers, MD (Washington University, St. Louis)
Warren Sandberg, MD, PhD (Vanderbilt University)

2-Year Term
Jeffrey Kirsch, MD (Oregon Health Science University)
Hugh Hemmings, MD (Weill-Cornell Medical College – New York Presbyterian)
Margaret Wood, MD, FRCA (Columbia University)

1-Year Term
Michael Cahalan, MD (University of Utah)
Jerry Epps, MD (University of Tennessee, Knoxville)
Wilton van Klei, MD, PhD (University Medical Center of Utrecht, Netherlands)

- Drs. Tremper and Kheterpal are standing members of the Executive Board
- There will be a quarterly meeting with the Executive Board Members to make strategic MPOG decisions
    - Tory will send out the results to everyone and the chairs
    - We may try to coordinate with the PCRC meeting and the chairs can stay on for an additional meeting, we will work out the details and disseminate the information

BCBS funding

- Blue Cross Blue Shield (BCBS) of Michigan which insures 60-70% of commercial volume in Michigan is interested in MPOG for quality reporting
    - Since 2004 they have been funding manual collection of quality data
    - They fund hospitals and employ nurses at each site to compile QA data
    - Prior areas of funding:
        - Cardiac
        - General
        - Bariatric
        - Neuro
    - Sachin has been working with them for the past two years to including anesthesia data
    - They are interested in the concept of automated data extractions
- BCBS has agreed to fund MPOG to collect data for QI purposes
    - Funding will include:

      MPOG
        - MPOG activities
        - Ongoing costs of MPOG
        - Hire one programmer at MPOG
        - Hire a clinician at MPOG to help with data cleaning, data review, content mapping, etc.

      Site Funding
        - Pay for MPOG Server
        - Pay for IT staff to support MPOG
- MPOG Responsibilities:
    - MPOG must identify ten hospitals that have a EHRs
        - Four in the first year
        - Five the second year
    - MPOG will continue to grow out QI reports (initial QI reports were demonstrated at the ASA Meeting in 2013)

QI reports alpha demonstration

- Sachin demonstrated the new QI reports
    - Would the institutions care if their data is exposed even as an anonymous user?
    - We will obtain consent from each institution before we use their data
    - Trend views after 2008, when most institutions became members of MPOG, so we can keep the data anonymous.
- Provider level data will be available for each institution
- What QI measures are most important?
    - Sachin will send out an e-mail with the several tables he feels will be the most important. Would like to obtain feedback from the institutions in order to move forward with building the QI tables
    - Trend views 2008 and beyond and sites become anonymous

- Questions/Concerns:
    - This will be an executive committee level discussion, but you as members of MPOG are being asked your opinion
    - Does this connect with AQI or are they separate?
        - Next agenda item, we'll discuss this information and the QI tables we want to track vs. AQI. As a smaller group, we can determine some of the flexibility of the data, for example, NSQIP was less flexible and nimble
    - Who can predict that their department will not want to use this reporting system or will have a problem with the QI Data?
        - Dr. Jameson: We already do several models that are exposed publicly at our institution. At first the clinicians did not like it, but they got used to the data being exposed.
        - Dr. Pagenelli: You are giving the chairs a tool to evaluate their faculty, I believe they will be happy to have this tool.
        - Dr. Pace: How does this relate to Blue Cross Michigan
            - This is what BCBS wants from MPOG and we are going to try to cross into the MPOG arena and make it available to all the instutions
        - Dr. Pace: What will be the funding implications for institutions outside of Michigan?
            - BCBS has convinced other states to do something similar. Nothing will change, but the resources at MPOG will grow and be available to all the institutions who participate in MPOG.
        - Do the institutions have to agree to the research aspect of MPOG?
            - We have included in the agreement that they have to agree to research
        - Dr. Paganelli: When will this be available to MPOG institutions?
            - We are about six months out, we will have the alpha version at Michigan by July and we need to agree to the types of graphs we want to include before we roll out the final version
            - ASA meetings will be goal to roll the final roll-out
        - Dr. Aziz: The risk adjustment aspect is important for institutions
            - Sachin will send e-mail to chair persons on exec committee
            - Announce QI more formally
                - Each institution to nominate a person locally to be on the QI committee
                - Sachin will send a document that has the initial 25 measures and would like feedback on the four measures that are the most important and we want to target first.
                - QI best practices to help improve project
        - Dr. Durieux: We have written a number of queries based on the MPOG database and I will send them to Sachin
        - Dr. Jameson will send the eight queries they are using at Colorado

Discussion of MPOG Data Re-use, AQI integration

- MPOG data is being used for multiple purposes; we want to encourage this behavior. The Bylaws state there is no exclusivity to your data.
- If your data is going to overlap with MPOG data we need to know, so we can disclose that before submission to journals. If your data is being used for other projects you need to expose that information. Are we consistent in that belief?
    - Dr. Jameson, we should agree if we contribute the data to MPOG and that is not good research if you disagree.
- We do not plan to include a clause in the bylaws regarding non-MPOG projects
- The champion of each institution should have knowledge of how their data is being used by their own institutions
    - We will modify the MPOG proposal cover sheet to make institutions aware of how their data is being used. It will be up to the PI to disclose if their data is being used in a similar way.
    - We will eventually make PCRC voting an electronic effort including a way to notify MPOG if the data is being used on other institutional projects
        - As long as MPOG central provides data, we need to be informed of other projects
    - We will make an effort have constant contact groups for current projects
    - Tory will make the PCRC project list into an excel spreadsheet that champions can manipulate to view projects
        - Include on each project which institutions are contributing data
        - Institutions need to e-mail Sachin any suggestions on what to include on the spreadsheet

AQI integration

- The MPOG Software application has an AQI interface to export the data to AQI. Each institution can choose to upload their data to AQI. The institution is responsible to manually hit the button from their institution to upload to AQI; MPOG will not submit data. The institutions are responsible to get data use agreements and passwords directly from AQI. There was a memorandum of understanding at the beginning of the MPOG and AQI collaboration outlined MPOG and AQI responsibilities. If a research project using the detailed EHR data from MPOG or a non-MPOG AQI contributor, then that would go through two separate committees. First it would go through the AQI Data Use Committee and second it would be presented at the MPOG PCRC meeting. It appears it has not been happening. After a discussion with Dr. Dutton, the AQI feels there will be a lot of requests and they do not have the ability to track those requests or send them to those two committees for approval.
    - Currently we have two sites actively sending data: Tennessee and Columbia (Vanderbilt has send billing data to AQI)
    - At this time we do not think we can get a commitment from AQI to track requests and we will not have visibility to where the data is being used
    - We have three options from this point forward:
        1. Keep doing what we are doing and send current EHR data to AQI knowing that once it gets there AQI owns the data and can do what they want with that data per their original agreement with the institutions

2. Stop sending data to AQI and turn off AQI
   Sachin does not recommend the first two, but suggests the third option below:
3. MPOG sends a limited set of data (patient demographics, staff information and the billing data [Profee, ICD-9]). This will occur until AQI can give some visibility into what is happening with the data. There has been a lot of effort extracting the data into MPOG to not know how the data is being used.
    - Dr. Epps: We will send the CPALM or outcomes data, we would choose the third options if it is an either/or situation
    - Michigan would want to send data, but would only want to do restricted dataset at this time
    - Dr. Durieux: What is our goal in restricting the data? It to make a statement or is the goal that it will not be possible for AQI to use the data for research.
        - The second, if we cannot tell what is happening with our data. AQI will not know what happens with that data and there is not catalog of the data and how it is being used.
        - Enable the advocacies activities
    - Dr. Jameson: We have actively not chosen to send to AQI, we have thought about it and MPOG is the more attractive alternative to use granular data on research. There was no guarantee what AQI was doing with the data. Colorado would be happy to send some data, but not the entire database.
    - Dr. Tremper: We have implemented a committee at Michigan to ensure that we are not doing the same projects. What is happening with AQI is the same problem. It will confuse the journals.

- The AQI board is meeting in May. Sachin will get all the e-mails that were sent to the entire AQI board/review them and send to MPOG
    - Sachin will set up an AQI board and MPOG Executive Board chat
    - If you would like to submit the limited dataset, let Sachin know.
        - MPOG has a limited dataset that was set up for Cornell
    - Schoenberger: We need to have AQI in this forum
        - We agree, we will have Rick Dutton in the forum before any final decisions are made
    - Please send Sachin an e-mail or call his cell and he will discuss it with you in further detail

ASA Abstracts sent to ASA:

- Dr. Aziz: Failed DL
- Bender: TV
- Linton (Shanks presenting): Transfusion