MEETING: Midwest Vascular Collaborative Fall 2015 Biannual Meeting
DATE: 10/17/15
TIME:     10:00 AM
LOCATION: Franciscan Education & Support Service Center - Indianapolis, IN

Present
✓ Bennett, Marci
✓ Butty, Sabah MD
✓ Devarapalli, Sai MD
✓ Dilley, Russell MD
✓ Forrest, Leslie
✓ Hoene, Amy
✓ Hussain, Sajjad MD
✓ Jacob, Dennis MD
✓ Kiel, Charles MD
✓ Klein, Janett
✓ Meier, III, George MD
✓ Lemmon, Gary MD
✓ Lyon, Audrey
✓ Maddox, Kathy
✓ Martens, John MD
✓ Motaganahalli, Raghu MD
✓ Saleemi, Lisa
✓ Self, Stephen MD
✓ Webb, Thomas MD
✓ Weiler, Barb

Guest

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<td>Call to Order</td>
<td>The meeting was officially called to order at 9:30 am by Gary Lemmon, MD. Minutes from the May 15, 2015 biannual meeting were reviewed and approved.</td>
<td>None needed.</td>
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<td>Welcome/Introduction</td>
<td>Charles Kiell, MD offered the welcome and stated this activity has been approved for AMA PRA Category 1 Credit™ by Indiana University School of Medicine. He recognized newly elected officers for the 2015-2016 term and attendees on remoting in, via WebEX. The mission statement for the MVC was reviewed and Gary Lemmon, MD was introduced.</td>
<td>None needed.</td>
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<td>VQI Updates - Gary Lemmon, MD (IU Health Methodist Hospital)</td>
<td>MVC consists of 17 participating institutions. Owensboro Health Regional Hospital (Owensboro, KY) resigned from the collaborative largely due to the loss of their hospital’s physician champion and resources. Attendees are given a brief summary update on national VQI and encouraged to review slides on their own. Volunteer speakers have agreed to provide a presentation on areas the study group performs well in and areas where improvements are needed, such as LTFU. National VQI: • National VQI has 358 participating centers, making up 18 regional quality groups in 46 states and Ontario.</td>
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National VQI Update

### Discussion

- As of Sept. 1, 2015, there are 237,316 procedures captured nationally in the VQI registry. This is ripe data to develop a research project.

**LTFU:** Participants reviewed regional Long-Term Follow-up (LTFU) rates and discussed its importance to patient care. LTFU Committee has established the required fields that must be entered, to qualify for credit. Telephone follow-up would be acceptable, as long as key outcome measures are entered, i.e. ankle index and amputation.

- 9–21 month entry after the procedure plus an additional 3 months for data entry
- To be in good standing with the VQI, participants must be an average 80% across all module which you are participating
- VQI will only review data that is 2 year old, to account for LTFU.

The SVS PSO is launching a VQI Participation Awards Program to recognize the importance of active participation in VQI, as a critical component of our quality improvement mission. Level of participation will be awarded based on three factors:

1. Completeness of long term follow-up reporting
2. Physician attendance at regional quality group meetings
3. Participation in multiple procedure registries

The Participation Award will award 1, 2 or 3 stars to VQI centers that achieve points in completeness of LTFU reporting, physician attendance at regular meetings and participation in multiple module registries. Low performers (centers/individual physicians with 50% mean LTFU):

- Will be notified of their status, in January, at which time they would be placed on probation for the next year. They would receive assistance from the PSO to improve.
- If after one year, they have not improved to at least 50% LTFU, the center/physician could not apply for Regional or National research projects, until they improve.
- Individual physicians, depending on their personal LTFU rates, could not use VQI participation for certification measures (Maintenance of Board Certification or PQRS reporting.)
- All LTFU data would be excluded from research datasets for any center with <50% LTFU for the reporting years in the research dataset.
- Excluded from participating in industry trials

High performing centers can receive a VQI participation award and be acknowledged in SVS/PSO publications.

**PAD Registry:** This is a new registry. All modules are procedure based. Data entry does not happen, until the physician actually performs an operation on the patient. Survey was sent to all VQI, SVS and SVM members. The results indicated there is considerable amount of interest in participating in this registry.

Management scope is for non-intervention:

- PAD
- Carotid stenosis
- AAA
- New outpatient consults that require follow-up
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| National VQI Update | Management scope is for non-intervention continued:  
- One year follow-up required, longer if possible.  
Threshold is not defined, yet, but the Committee is meeting to define. The goal is to roll the PAD Registry out by Quarter 1 of 2016.  
VQI Individual Physician Report: Physician members can now upload their individual physician comparative reports of your performance. Physician members were emailed a notice to upload their individual reports. The report is located in PATHWAYS, under the “Share A File” tab. Example of your comparative reports that can be reviewed against your center, region and nationally. Members can review their individual outcomes in:  
- Discharge medications  
- LTFU  
Center Opportunity Profile for Improvement (COPI): The initial LE Bypass COPI reports were well received and looked at transfusion, operative time and chlorohexidine as the three indicators that impact skin and soft tissue infection. VQI plans to send one COPI report per month. Infra-Inguinal LOS released this Spring. The new measures will collate with the QCDR requirements (15 measures) that are defined and approved by CMS consideration for reimbursement. COPI report key:  
- YC = Your center.  
- Data highlighted in pink represents statistical outliers.  
- Green represents areas were performance is good. |  |
|  | An example is shared that shows the region’s LE Bypass % LOS >7 days and our region is statistically best in the nation. Dr. Lemmon shares that his center looked at their COPI internally for carotid stenting also looked at why our CEAs had higher LOS. The physician members were able to use the report to drill down the data to discover the hospital has a high number of CEA patients with moderate to severe CHF that were more than expected.  
EPIC: One main criticism of VQI is that the data base does not have connections with our normal day-to-day activities. There is difficulty interacting with it on our own EMR systems such as EPIC CERNER, etc. The interface should be an HL7 interface, but there has been a fair amount of resistance from M2S to allow this to happen, due to validity of data. There are people working on this. Interfacing has to happen for VQI to become valid in the future. EPIC is now up and running with some good work coming out of the Univ. of Rockford and Stanford. They have developed Smart Apps and this should result in patient entry becoming much smoother. CERNER is lagging behind. SVS VQI wants to see if it works for EPIC, before rolling it out to a larger venue. This has to happen, if we are going to be valid, in the future.  
EVAR Cost Pilot: MedAssets: SVS and VQI are interested in comparative cost among institutions for EVAR and eventually other projects. National VQI is looking at EVAR cost data for select institutions. IUH Methodist Hospital in Indianapolis is participating in this pilot program. The goal is to look at the hospital data with clinical information, to provide a benchmark for other institutions to look at their center and how they manage EVARs, from a cost perspective. There is no loss of information, from a PSO perspective. It is all still de-identified. |  |
VQI Updates - Gary Lemmon, MD (IU Health Methodist Hospital)

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<td>National VQI Update</td>
<td>Post-Approval Device Surveillance: The Federal Government has determined there is a great deal of post-market information required for surveilling the devices placed into patients. FDA recommends the VQI registry to collect real-world data for post-market surveillance. The advantage is cost to participate can be offset by the reimbursement for participation. Other benefits are that it promotes collaboration and it provides your institute the opportunity to participate in some active clinical research that does not require it be vetted. Members merely agree to participate in the research.</td>
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|                                      | • TEVAR Dissection Post-market Surveillance: Sponsored by MedTronic and Gore:  
  - This is a project on aortic dissections for TEVAR.  
  - *The 5yr. project is closed. Can still enter data for the 1yr. project and reimbursement is $400 for each patient, with a completed 1-year follow up. Reimbursement will be released, once the 1 year follow up form is submitted and all associated data inquiries have been addressed/resolved.  
  - For Surveillance project details, contact TEVAR@m2s.com  
  - Lombard Aorfix Post-market Surveillance - Unique indo-graph placement:  
    - Reimbursement for participation – up to $4,000  
    - For Surveillance project details, contact LOMBARD@M2S.com  
  - Vascular Flow STAAR Project for Hemodialysis Procedures - NEW  
    - Reimbursement for participation  
    - Maximum of 75 patients/15 site  
    - Maximum patients per site is 15  
    - Primary graft placements, only  
    - Reimbursement up to $2,000  
    - For Surveillance project details, contact STAAR@m2s.com  

All reimbursements are disbursed quarterly by the SVS PSO to the designated entity in the contract addendum. |
<p>|                                      | LTFU Reports as of 2013: The list of MVC participating facilities and modules are review. The region has collected 10,445 procedures in the VQI registry, as of Sept. 1, 2015, with the most common module being CEAs and PVI. The region has quite a bit of data, if someone wanted to develop a research project. The Midwest regional group is on the low end, along with several other regional groups. The region’s overall LTFU percentage rate in 2012 was 69% success rate, but it has tapered off, since then. The overall rate as of 2013 is 42%. As of Sept. 2015, our region is lagging across the board, in terms of modules. If this trend continues, our region will be on probation. It is important each institution focus on improving their LTFU. The Journal of Vascular Surgery has expressed concern, when the 80% threshold is not met. The Journal will stop printing data from VQI, unless participants meet the 80% threshold. If the low LTFU rate trend continues, there will be a fair number of regional study groups that will be in probation. Centers in the upper Midwest region have higher LTFU rates and are doing a significantly better job of LTFU. Barb Weiler shares that St. Vincent/St. Vincent Heart Center has really made LTFU a focus, since the data cut-off date, April 2015. |</p>
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<td>LTFU</td>
<td>LTFU Reports as of 2013 continued: Their facility has assigned one person to manage entering surgical data and LTFU, improving their rate to 75%, as of 2013. If LTFU data is incomplete, they will research hospital records. It will take a real effort. LTFU for TEVAR is very low. There are two centers currently participating in the TEVAR module with 25 patients entered in the registry. The regional rate of TEVAR LTFU is 25%. Dr. Lemmon shared that TEVAR performed by CT Surgeons at IUH Methodist Hospital were not captured in the vascular registry. The hospital has remedied this by adding CT Surgeons to the collaborative. Members are reminded that they can use other physician’s patient follow-up information from either the EMR or an office visit. The Midwest region does have some centers that are in compliance with LTFU.</td>
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**UH Goshen Hospital LTFU Practices presented by John Martens, MD:** IUH Goshen Hospital is one of the facilities that have a good LTFU rates. Goshen Hospital joined VQI in 2012. Physician members are both employed by the hospital and independent providers. There are several unique characteristics of this institution:

- Limited geographical area – The hospital is located in northeastern Indiana, in a more rural geographical area, with a small number of practitioners.
- Institution supports physician participation in the VQI and there is a culture of integration.
- Commitment from institution to provide data driven care.

**Key to success:**

- System approach and integration of all their specialist preforming vascular procedures.
- Participating physicians are located in a central location.
- Physician members meet on a weekly base to review cases, treatment plans and discuss successes and failures. This helps to build a culture of collaboration. Follow-up is included in this discussion. They also meet to review their VQI center and regional quality reports, when they are released.
- Data entry is performed by one person, a case vascular coordinator with experience in the OR. No data entry performed by physician member.
- One person is responsible for tracking down missing information. This person has the support of physician members to track down missing procedure information.
- Key lynchpin is the vascular care coordinator who is responsible for tracking the interventions. Not only does this person enter the data, she tracks and provides physician members a list of patients who require follow-up.
- The data coordinator also contacts the physician to remind him/her when a patient has not had his/her follow-up.
- The patient list is flagged to notify the physician the patient is there for his/her 1 year follow-up.

The specialties agree that each participating physician will receive their piece of the pie. Being a smaller facility, a change in data will have a large impact.
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| LTFU  | IUH Goshen Hospital LTFU Practices Key to success continued: Reasons patients do not return for follow-up:  
- Patients lose their insurance or don’t have enough money for the co-pay  
- Patient feels better and does not feel they need a follow-up visit  
How they handle non-compliant patients:  
- Physician makes it very clear, at the beginning of care, if the patient is going to be a part of this system, he/she must return for follow-up appointment  
- Physician calls patients to get them to come in for follow-up  
- At the beginning of care, the physician gives the patient information that states follow-up is a critical part of their care.  
- Physician explains that the data is needed to let the physician know how the patient is doing and provide intervention, before disaster occurs.  
- Dr. Marten often tells the patient about the VQI and how returning for their follow-up will help ensure the data is accurate.  
This is an on-going process, at their center. As physicians participate in VQI, the value becomes stronger. Physician members are committed to this integrated approach.  
Take-away:  
- Centers with a more urban population will more often have patients that get lost in the system. Sabah Butty, MD recommends the VQI adjust LTFU threshold, setting it lower for hospitals that are in a metropolitan area compared to a more rural area.  
- Recognizing this is about vascular care will reduce competition.  
- System approach as opposed to a specialty approach is critical.  
- Raghunath Motaganahalli, MD recommends the VQI provide 3 data points that members can request from the primary care physician. This would be very helpful in completing follow-up.  
- There must have complete physician by-in to enter LTFU or a designated person must own it.  
- If physicians are not responsible for entering LTFU data, there must be a designated person to own this function.  
- Provide patient information stating follow-up is a necessary part of their health care.  
Members agree there are processes in this model that can be replicated. |

Arterial Quality Committee Update – Charles Kiell, MD (Franciscan St. Francis Hospital-Indianapolis)

| Module Committee Roles:  
- Participation in all the Arterial Quality Committee (AQC) calls.  
- Yearly report generation (identify opportunities for improvement of the module, LTFU within the module, missing variable report and data trends)  
- Evaluate PQRS/QCDR measure from respective module and identify possible quality initiatives  
- Generate risk calculators and yearly updates to the modules  
- Participation in all call  
PVI form change update: The Module Committee manages these changes. Minor changes such as medications added and procedure features removed from the form. |
### Arterial Quality Committee Update – Charles Kiell, MD (Franciscan St. Francis Hospital-Indianapolis)

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<td>National Update</td>
<td>Pre-operative symptoms: They are more drilled down upon for both chronic and acute things. Claudication, extensive tissue loss and acute ischemia are all more refined.</td>
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<td>Popliteal segments:</td>
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<td>• Now divided into three segments</td>
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<td>• The degree of calcification is measured.</td>
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<td>Major changes:</td>
<td>Device tracking is more extensive — plain balloon/specialized balloon (cutting balloon). Manufacturer device name is requested, rather than simply “a balloon was deployed.”</td>
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<td>WiFi score – well defined in the SVS VQI grading</td>
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<td>TASC segments recorded by arterial segment rather than per artery.</td>
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<td>Improved work flow with addition of dependencies</td>
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<td>Improved help text</td>
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<td>There will be indications of whether a procedure was successful or not.</td>
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<td>There has been discussion amongst the AQC if a more expanded or core form to try to have centers that are not as interested in research to participate more in data elements. That will be piloted with the carotid endarterectomy module. There has been significant effort at getting better data and trying to use audits to look at the outliers.</td>
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<td>National Quality Improvement Projects:</td>
<td>• Statin/AP therapy</td>
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<td>• Follow-up imaging after EVAR</td>
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<td>• Appropriateness of care</td>
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### Venous Quality Committee Update – Sabah Butty, MD (IU Health Methodist Hospital-Indianapolis)

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<td>National Update</td>
<td>The Venous Quality Committee (VQC) is chaired by Jose Almeida, MD. There are basically two registries, the IVC Filter registry and the Varicose Vein registry.</td>
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<td>IVC Filter registry:</td>
<td>There are 3228 procedures in the VQI registry and 56 centers participating in venous modules.</td>
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<td>The goal is to look at the management of Retrievable IVC filters</td>
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<td>Varicose Vein Registry:</td>
<td>There are 1231 procedures in the VQI registry and 23 centers participating.</td>
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<td>• Focus on centers that have vein-specific EMR vendors:</td>
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<td>- VeinSpec</td>
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<td>- SonoSoft</td>
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<td>- StreamlineMD</td>
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<td>- MedStreaming</td>
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<td>• Includes Quality of Life variables</td>
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<td>• In terms of follow-up, they are looking at procedural data.</td>
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### Research Advisory Council Update – Raghu Motaganahalli, MD (IU Health Methodist Hospital-Indianapolis)

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<td>The goal of the Research committee:</td>
<td>• Help assist in the acquisition of datasets for specific research questions</td>
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<td>• Help centers with study design, application process, etc.</td>
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| There are 42 national projects and 80 Regional Projects for future publication. Take a moment to review the list at:  ([link](http://www.vascularqualityinitiative.org/wp-content/uploads/VQI_Approved_Projects_List_February-11-2015.pdf)).  
The current process is that projects are proposed nationally, approved (or not approved) locally and then the list of projects are distributed amongst the national regional study groups.  
- With over 10,000 cases in the registry for the Midwest region, the group has enough data to develop its own research proposal.  
- Currently, research proposals are sent to the MVC Research Advisory chair who, along with committee members, reviews the list. Upon approval, the list is emailed back to the RAC council with approval to use regional data for the project.  
- The MVC Executive Committee has approved 3 quality projects - Ultrasound Guidance for PVI; ASA + Statin Usage; Operative Time for CEA  
- Project committee members will provide an update, during the spring 2016 meeting.  
- If members intend to publish, they will need to have an approved IRB from your center. Regional projects must be approved by the regional RAC and the national RAC.  

Dr. Motaganahalli recommends, national research project proposal list be disseminated to regional members. There may be projects members want to participate in. The Executive Council is sending this list to members. Dr. Lemmon is concerned members are already receiving too many emails and recommends members should be asked if they want to receive the list, as a region. Members state they are receiving notice of national projects. Dr. Raghu recommends members can contact him to receive contact information for project(s). If they object, they can be removed from the distribution list.  

- Project committee members will provide an update, during the spring 2016 meeting. |

Data Manager Update - Barbara Weiler (St. Vincent Hospital/St. Vincent Heart Center of Indiana)  

Regional VQI  

Currently, there are 17 regional sites in the Midwest region. There are over 10,000 procedures entered into the registry for our region, with PVI and CEA having the largest module participation.  

**Deadline for harvesting data:**  
In response to the biannual meetings, analysis is completed as follows:  
- Fall regional reports:  
  - Data entry cut off Jun 1st  
  - Procedure date cut off April 1st  
- Spring regional reports:  
  - Data entry cut off Jan 1  
  - Procedure date cut off Nov 1st  

**Challenges continue to be:**  
- Data deadlines are too short an often challenging for centers.  
  - The November cut-off date is in the middle of a quarter. It makes more sense to move the cut-off for surgery (Spring) to Oct. 1st.  
  - The November cut-off date is in the middle of a quarter. It makes more sense to move the cut-off for surgery (Spring) to Oct. 1st.  
  
Barb’s team performs concurrent data collection and they work on the quarter system. |
### Data Manager Update - Barbara Weiler (St. Vincent Hospital/St. Vincent Heart Center of Indiana)

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| Regional VQI | Challenges continue to be:  
- Data deadlines are too short  
  - She has requested PATHWAYS change the dates. The response has been that they are working on it.  
  - Dr. Motaganahalli recommends we ask SVS PSO/M2S to push the cut-off date back a month, due to the holidays.  
- Many variables without definitions – not enough guidance.  
- EVAR, TEVAR: Devices are still not in appropriate drop downs (Iliac devices that are only in the Aortic Device drop down)  
- EVAR: Aortic Neck angles are still not documented anywhere  
  - PVI: TASC, # Lesions Treated, Occlusion Length, Treated Length. Results in submitting without validation.  
  - Sajjad Hussain, MD recommends this be something that is captured in the office record.  
- Analytics and Reporting issues –Definitions make is difficult to compare across the modules.  
Regional Data Manager/Coordinator meetings:  
- The Midwest region has resumed scheduling in-person/webinars meetings. Most recently, a webinar was held in September. The group would like to schedule quarterly meetings to discuss issues and share best practices.  
- A list of registry issues has been submitted to M2S.  
- National VQI is investigating offering data manager/coordinator meeting during VAM in June 2016. They would like to offer CNE/CEU’s for participation. |  
- Lisa to follow-up with Matt to request an update on resolving some/all submitted issues. |

### MVC Quality Improvement Projects - Gary Lemmon, MD (IU Health Methodist Hospital)

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| Regional VQI | Projects are based on previous regional comparative data. The Midwest Executive Committee approved the following regional projects:  
- Ultrasound Guidance for PVI  
  - Ultrasound use has been reported to reduce access related complications for PVI. This finding has been published and is out in the Journal of Vascular Surgery and can be reviewed.  
  - A wide variance of use  
  - May be worthwhile to look at this from a specialty perspective.  
- Operative Time for CEA  
  - The Midwest demonstrates a wide variation in operative time. What is unknown is whether any association exists between operative time and CEA outcomes. We want to look at possible reasons for this.  
  - The group considered looking at eversion techniques to see if that affected operative time, as well. Certainly, the group can consider looking at ischemic time, if they can capture it. It may not be in the data base.  
  - We can consider looking at eversion techniques to see if that affected operative time as a hashtag, going forward. Everyone must be in agreement to uniformly capture this data in their notes. |  
- Russell Dilley, MD will join the Operative Time for CEA project |
### MVC Quality Improvement Projects - Gary Lemmon, MD (IU Health Methodist Hospital)

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| Regional VQI | Regional Quality Improvement Projects continued:  
  - We will also look at whether it collates with LOS, as well.  
  - This in information that has not been previously published.  
  - ASA + Statin Usage –  
    - The recommended VQI threshold for dual medication use post intervention is 90%. There are moderate differences in prescribing differences among specialties. It is worthwhile to determine if outcomes measures such as amputation rates for PVI or restenosis are dependent on usage and whether those specialties with higher usage have improved outcomes.  
(See attached slides for all rationale for project proposal.) | Data will be pulled from the Midwest regional report findings and shared during the spring 2016 meeting. |

<p>| Regional Comparative Reports - Gary Lemmon, MD (IU Health Methodist Hospital) | | |
| Discharge Medications Procedures | This is a review of comparative data of the Midwest region and national VQI. Members/guests were emailed the slides to review. Drs. Lemmon provided highlights of each report. Treating patients with best medications improves their overall longevity and reduces their risk of stroke and death. The variation report indicates there is enough variance to look at differences among specialties. As a region, we are at 78% and the national average is around 82%. The highest performer is at 90%. | |
| Percentage of Infra-inguinal Bypass Procedures with Chlorhexidine or Chlorhexidine + Alcohol Skin Prep | The way this report is generated does not make a great deal of sense. One of our regional centers is less than 10% of the time. As a region, we are a significant outlier in this report, based on VQI. Our LOS and complication rate, for lower extremity bypass, is the best in the country. This is really a nonsensical data point that SVS VQI continues to send. Dr. Lemmon has discussed this with SVS VQI and there has been a lot of resistance. They understand a lot of physicians were using Betadine, only, as their skin prep. Dr. Lemmon shares his technique is to use Chlorohexidine with an alcohol base, but this does not provide good contact with current skin barriers particularly in skin folds and creases. He uses a dura-prep, which makes it stick well to the skin. He falls out of this selection, because he uses this technique. Dr. Martens shares that he’s not sure whether he uses the dura-prep. | |
| Percentage of Major Complications after Infra-inguinal Bypass | Our region is very low, in this area and not much variance between the two centers that report for this procedure at 3%. | |
| Mean Preoperative Ipsilateral Duplex Peak Systolic Velocity in Asymptomatic Patients undergoing CEA | There is one Region where asymptomatic CEA has been performed with a PSV of 160-180 cm/sec. Most institutions seem to have 300 as their marker. This report may be retired as region feedback has indicated this is not a valuable report. | |
| Percentage of Percutaneous Femoral PVI Procedures Using Ultrasound Guidance | The top scale represents all MVC centers. Compared nationally, our region is on the low end for using Ultrasound Guidance for PVI. Part of this may be due to physicians not dictating that they use Ultrasound Guidance. It does have a billable code. There is quite a bit of variation between those who never use it and others who are. | |
| CEA Stroke or Death in Hospital | This report is risk adjusted for carotids. It is not emergent or anything else and reflects elective procedures. The Midwest region is above the mark of expected. There are several centers that are doing quite well. One of our centers is pushing our regional numbers a little high. Each MVC center would have received your center report, so you know where you lie. There are four centers that need to watch their performance numbers. | |</p>
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<td>CAS Stoke or Death in Hospital</td>
<td>There is one facility in our region that has historically had issues with carotid stenting. There are four groups that do stenting, at this institution. We think this will be generating a Pathway, before too long. In the Midwest region, we are not performing too badly.</td>
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<td>Open Non-ruptured AAA in Hospital Mortality</td>
<td>As a region, we are doing quite well. There is a low volume provider in our region where O/E rate is quite high but those numbers may have been just a fluke of the year it was reported. This institution needs to look at their process and patient selection for this procedure. These procedures are elective as defined by VQI with exclusion of procedures on weekends and emergent cases.</td>
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<td>CEA: Percentage of Patients with LOS &gt; 1 Day</td>
<td>The Midwest region does quite well with this procedure. MVC is statistically good, compared to other centers across the country. We have been historically the best or one of the best, within the country.</td>
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<td>°AAA Repair: Percentage of Patients with LOS ≥ 8 Days</td>
<td>The Midwest regional study group does quite well with this procedure. We are statistically very good.</td>
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<td>EVAR: Percentage of Patients with LOS &gt;2 days</td>
<td>The Midwest study group is performing the best in the country and has been for the last three years.</td>
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<td>Prophylactic IVC Filter (12/31/2014)</td>
<td>For the region, we seem to be one of the highest users within the country. We have three institutions participating in the Midwest region. The region’s removal rate was less than 30% and seems to be driven by one institution. This is a ripe area for further research. You can get a lot of data across the country. The question was asked, if the region is placing a lot of prophylactic filters, how many of these are retrieved after they’ve been placed? Dr. Butty advises there is a lot of medical legal risk for putting in filters and believes physicians must be given some guidance. There might be a suggestion to develop a pathway that would provide better guidance for filter prophylaxis. Dr. Butty suggests this is a vascular care issue not a radiology or surgery issue. There has to be a system approach to make larger changes, quicker.</td>
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<td>CEA Discussion - Russell Dilley, MD (Community Health/Heart &amp; Vascular)</td>
<td>We have been asked, as a region, to answer why we are doing so much better than the rest of the country. Russell Dilley, MD agreed to provide a presentation on LOS and how CEAs are performed at his center. Community Health Network Practices presented by Russell Dilley, MD: The Midwest region does well at managing CEA LOS. He pulled and presented the region’s 2014 and 2015 data to his partners. A meeting was call of all his partners, NPs and Pas (Advance Practice Providers – APPs). They made this information an ‘incentive driver’. He wasn’t sure whether compensation affected this or not. In 2014, the region was at roughly 24%, which was better than the national rate at 29%. One of our largest participating hospitals was rather high at 38%. In 2015, the first 6 months, the major hospital that performs most of their carotids is now down in the 21% range. The Midwest region has two centers that perform more carotids. If you look at the high-volume hospitals, they went from 38% to 22% LOS&gt;2 days. The lower volume hospitals are probably the ‘low hanging fruit’ because either the low-volume hospital or</td>
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Community Health Network Practices presented by Russell Dilley, MD  

**continued:** or surgeon probably does not have the system in place to get patients out of the hospital. The only paper that he wanted to compare to was the New England study group published data from 2003 – 2011 in the JVS, last year. In the study, the question of why we care about LOS was raised. Dr. Dilley suggests it has very little to do with quality. Patients stay longer because they are sicker. There has been a disassociation between extended LOS, mortality rates in the first year and readmission rates. But, it’s because the patient is sicker, not because (s)he stayed in the hospital longer.

All the following characteristics collate with the longer LOS:

- **Reimbursement:** The main thing is reimbursement. The physician is not going to sacrifice patient care and quality of care for reimbursement. But, there is a large population of patients in whom this is an important consideration. The patient who could easily (medically) have gone home the afternoon after the surgery who stays another day or two because for example they didn’t like the time of release. The physician can’t generate the documentation to support that and you are going to lose money because of it. The more days they stay, the more money you lose. If you can document, document, but you are probably still going to lose money on a relatively uncomplicated carotid that stays three days, no matter how good or creative your documentation.

- **Screening the patient:** The study suggests, you may consider screening the patient. You are most likely not going to do this because the patient needs the procedure. You can stabilize the high blood pressure and you can make sure they have a positive stress test. They have obviously had a cardiology consult. But, you are not going to refuse to operate on a patient because they may have a longer LOS.

- **Systems:** System characteristics are what we need to focus on, in terms of this topic. Obviously, the day of the week is a huge element but is meaningless, in terms of quality of care. Reimbursement issues are significant. These are all things the system can address.

- **Complications:** You do your best to prevent complications, but the fact that they have a complication leading to an extended LOS is pretty much meaningless information, except for controlling hypertension.

- **Independent Predictors:** General anesthesia was considered. Unless your institution and your surgeons have a history of doing the majority of their carotids under regional or local anesthesia, you are not going to change that. There are institutions that have historically done them all that way, but unless you come from that environment, you are not going to change.

- **Age:** Patients over 90 years old are guaranteed to have an extended LOS. You are not going to deny a patient because of age, but you do need to pay attention to this.
**CEA Discussion - Russell Dilley, MD (Community Hospital/Heart & Vascular)**

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**Impactors of LOS continued:**

The contribution of all of these things to that population that had an extended LOS:
- Most patients had a major adverse event
- Patient had to have IV meds for hyper(hypo)tension.

**How to Manage LOS:**
- It is the way the system handles patient expectation that must be managed.
- We can manage blood pressure control.
  - Have the right protocols so the nurse doesn’t have to spend time trying to get in touch with someone to find out how he/she needs to treat the patient.
- You need a good relationship with your Urologist.
- Do what is best for the patient.
- Document. Can’t be over emphasized.
- Manage patient expectation
  - The message must be planted in the patient that people with this operation go home the first day, when they are first seen.
  - Discuss how they will go home (i.e. who will drive them home? If elderly, who will stay the first night with can soften resistance to going home.)
  - Message to the patient needs to be reinforced in the office and in the pre-op clinic by the nurse and the doctor.
- Schedule them in the morning, if you can.
- Discharge: The physician has to decide whether the patient is going home or not, but it is the Advance Practice Provider who will get it done.
- Get the patient out by noon
- Could perform them as Outpatients, but Medicare won’t pay for that.

What’s best for the patient is getting them out of the hospital, sooner rather than later.

**Questions/Comments:** Dr. Lemmon shares, in his facility, they’ve observed the ICU is a delay factor in actually getting the throughput of that patient to another bed. There is a delay in getting them from the unit, when they’ve had an uneventful night, and can’t get them to a different floor. We are, occasionally, discharging those patients from the ICU, rather than the floor. Dr. Dilley states, they typically send all their patients to the ICU. At their Heart Center, the Recovery Unit is part of the ICU. Occasionally, the may keep the patient 4 hours, instead of an hour, and then send them upstairs. They typically release all carotid patients from the ICU and later transfer them. They seem to be aggressive with blood pressure control. Blood pressure management is critical to their process. Most of their patients stay with an art-line for monitoring. Should we be more liberal about managing hypertension and let it get up to something that we would all treat, but choose to ignore the higher number for a while? Does it make any difference? There are a lot to variables. What number would you use? It almost has to be individualized, based on what you know about the patient. It’s difficult to see. Dr. Dilley has not been able to find documentation that
### CEA Discussion - Russell Dilley, MD (Community Vascular Hospital/Heart & Vascular)

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<td>Questions/Comments continued: shows the Readmission rate is lower if the patient goes home the first day, as opposed to the second day. Clearly, as a region, we do carotids very well.</td>
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### EVAR Discussion - Sajjad Hussain, MD (St. Vincent Hospital/St. Vincent Heart Center of Indiana)

The region is doing very well with this module. This is an area where the Midwest region should be out being “the experts in the room”, when it comes to this procedure, on a regional and national front. There are several centers within our regional study group that are performing well. Sajjad Hussain, MD has been asked to share the processes at his institution. They looked at the data LOS in 2013 for their two locations (Hospital - 86th Street and Heart Center - 106th Street). They are looking at LOS, in terms of days. The VQI is looking at LOS in terms of the percentage of patients that stayed beyond a certain number of days. In 2013, at the Hospital (86th Street), the LOS was 3.2% and 2.7% in 2014. At the Heart Center (106th Street) the rate was 1.3% in 2013 and down to 1.1% in 2014. 95% of their cases are percutaneous, with ultrasound guidance access.

Impact factors:
- Preoperative risk stratification
- Screening – 46% of patients had a stress test, before the procedure. Did not make that much of a difference in LOS.
- Patient Selection - This is probably one of the most important factors. What is the percentage of patients at your center with EVAR vs Open repair? If you are going to select the lower risk patients for EVAR, you have a better chance of getting them out of the hospital, the next day. If you are going to do some other procedures, along with the EVAR, or some complicated approach, you may end up having that patient in for another day or two. He doesn’t think his centers did anything differently, in terms of preparing the patient for surgery or getting them in better physical shape.
- Case Management involvement
  - When they see the patient in the office, if they’re anticipating case management is going to be needed, they start that contact in the office.
  - When you look at EVAR patients, most of them are going to be able to go home the next day or the following day.
- Anesthesia – More than 90% of the EVAR procedures they perform, the patients are done under general anesthesia. Very few are done under regional or local anesthesia.
- Post-Op care: ICU vs Step-Down - They have a different process at their two locations:
  - At the Heart Center (106th Street), every room is an individual room.
  - It is the nursing ratio which determines whether you are going to designate that as a critical care patient or not because all nurses are not critical care trained. A Post-op EVAR will go up to the floor of the Heart Center and will go home the next day.
  - At the Hospital (86th Street) where you have ICU and the regular floor, the EVAR patient is going to go to Recovery, then go to the regular Vascular Surgery floor and be discharged the following day.
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<td>Impact factors continued:</td>
<td>• Foley Management – This is very pertinent for carotids as well as for EVARs. Going back to the carotids, there is a significant number of patients that don’t receive any foley catheter, during the carotid operation. Hardly ever do they place a foley catheter in a female patient. You can elect to place a foley in the male patient. For EVAR patients, everyone will receive a foley catheter, but now they have a system where the nurse is directed to remove the foley catheter, four hours after surgery. A bladder scan is done, if there is not urine, in a certain number of hours. Then, they determine if a catheter needs to go back in, if a certain amount of urine is revealed. This will then result in a call to the Urology Service and the patient being scheduled to be released the next day with a leg bag. They will then follow-up in the Urologist office. In order to go back and drill down to see what caused their centers to reduce LOS over the course of the last three or four years, they will need to do a formal study. But this is the system they have implemented.</td>
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<td>Take away: Foley management and patient selection are the two main processes that Dr. Hussain believes impacts patients LOS the most.</td>
<td>Questions/Comments: Dr. Butty questions, if most of their cases are done percutaneously, how important is an ICU stay? Dr. Hussain share that is not necessary. Most of their Hospital patients will go from regular floor to the general surgery or general vascular floor. At the Heart Center, the patient will just be designated as “regular” room. Dr. Lemmon shares, traditionally at Methodist Hospital, almost all EVAR patients have gone to the ICU for an overnight stay. It may be overutilization of the ICU.</td>
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<td>• GFR pre-op - Dr. Hussain states they could probably look at what happens to their patients who have a low GFR, in terms of LOS. His centers have not looked at this, yet. When they see a bump in the creatinine, they do something similar to what they do with the Urology Service. They get the Nephrologist Service involved. The patient will go home after the discussion with the nephrologist and the vascular surgeon, to be followed-up with serial creatinine. If it is a significant bump in creatinine numbers, this is handled completely differently. Dr. Butty agrees and adds that the likelihood you will get permanent renal damage or dialysis is very low.</td>
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<td>• Case Management – Dr. Lemmon asks if one patient is healthy robust and the other is coming to you in a wheelchair, do they have an age limit of when they start to begin the process early about discussing disposition plan? Does that influence how you determine what resources will be used in the hospital? Dr. Hussain suggests it is more the recommendation of the physician seeing the patient in the office. You have to get a feel of where this patient’s functioning level is and, based on that, determine your case management request. Case management will not see the patient pre-operatively. They will be notified of the patient and the date of admission. They will be involved, from the time the patient comes in to the pre-op area to go upstairs. They may contact the family, before hand, if necessary.</td>
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<td>Take away continued:</td>
<td>- Anesthesia - Dr. Lemmon shares that he believes a lot of the challenges with getting the patient to go home next day is caused by trying to convince Anesthesia this is a minor procedure of EVAR placement. They don’t need to receive 3 liters of fluid for a 90 min. case. Have you gone through the education process with your anesthesiologist for an uneventful procedure? Dr. Hussain shares that they have a ‘point person’ in the larger anesthesia group who is the liaison with Vascular Service. On a periodic base, they have them attend their vascular meetings and discuss different issues. Other related issue discussed is waking up patients directly after the CEA or taking a long time to wake them, so they can evaluate the patient. This has resulted in the anesthesiologist looking at endovascular repair as a totally different entity than Open AAA repair. Anesthesia at the Heart center is already educated on this. Dr. Butty asks at what point do they decide to do the procedure under conscious sedation, if it is a straight forward aneurysm? Dr. Lemmon shares, in his experience there is too much variability in anesthesia work to get conscious sedation to do these. If you really want to use conscious sedation, you want the patient totally alert, so they can do a breath-hold for you. At least, under a general, you can ask them to stop the ventilator and you can get a good picture. If it’s a straight forward, long neck, not calcified, why do you need general anesthesia? Dr. Lemmon states you do not need it. Dr. Raghu suggests, for straight forward, there is no need to consult anesthesia. Challenging to educate, when there is a large number of anesthesiologist that rotate through a hospital of our size. By a lessor resistance, they have decided to genuflex because they know they are controlled.</td>
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Regional Growth - Gary Lemmon, MD and Lisa Saleemi (IU Health Methodist Hospital)

- A map of target potential partners is presented. We try to complement the work of Matt Regan (Business Dev.-SVS PSO). Some institutions are not reachable, because they will be assigned to other neighboring regional study groups. Members are asked to participate as ambassadors, sharing contact information for someone they know at one of the target facilities or be willing to volunteer to present their real-world experience to a potential partner in their area. Future expansion will include Eastern Illinois. Barb shares that the centers in Robinson and Lawrenceville, IL are too small to find participation beneficial. Danville, Paris and Urbana Illinois might be interested in participating. The more institutions we add to the study group, the more robust the data we get back.

PATHWAYS Reporting and Technology Updates – Matt Regan (M2S)

- VQI has endorsed two new data abstractor partners. No technology update was provided. Dr. Lemmon recommends attendees review the slides and send questions to Matt.

Adjourned

Meeting adjourned at 12:45pm.