

# Third Annual ACQR Retreat Ann Arbor, Michigan

September 20, 2019



# General Housekeeping

- *Breakfast:* Panera Bread
- Bathrooms are located down the hall:
  - Please take a break when needed
- *Lunch:* Zingerman's!
- Gifts – Thank you for all you do!



# Morning Agenda

- Introductions/Announcements
- 2020 P4P Cards
- Case Viewer 2.0 Preview
- MPOG Coordinating Center Workflow
- October Upgrade
- Using MPOG for Data and Research



# Introductions

- Welcome to our Newest ACQR!
  - Quinten Davis, BSN (Mercy Muskegon)
- Best wishes on your Retirement!
  - Joan Crawford (Mercy Muskegon): August 2019
  - Kathy Louzon (Beaumont RO/Troy): March 2020
- New MPOG Coordinating Center Staff
  - Brooke Szymanski, MSN (QI Coordinator)
  - Rob Coleman (Programmer)
  - Michelle Romanowski (Programmer)
  - Chris Heiden (Technical Support)
  - ***For access issues contact*** [support@mpog.zendesk.com](mailto:support@mpog.zendesk.com)





# Announcements

- MPOG Retreat in October
  - *Environmental Impact of Anesthesia*; Dr. Jodi Sherman (Yale)
  - *Post-operative Delirium*; Dr. Deb Culley (Brigham & Women's Hospital)
  - Best of MPOG Research and QI Abstracts
  - MPOG QI Update, Dr. Shah from ASPIRE
- IM Onboarding 2020
  - HFHS: Macomb/Wyandotte and Allegiance
  - St. Mary's Grand Rapids
  - Borgess?
- IM Conversion 2020
  - Trinity (Epic)
  - Bronson
  - Sparrow



# MPOG Retreat Registration

First Name	Last Name	Institution	Confirmed
Mary	McKinney	Beaumont Dearborn/Taylor	9/13/2019 - 378495838
Ellen	Webb	Beaumont Dearborn/Wayne	8/31/2019 - 378480176
Joshua	Berris	Beaumont Farmington Hills	9/18/2019 - 378504274
Pamela	Tyler	Beaumont Farmington Hills	9/10/2019 - 378492784
Nichole	Pardo	Beaumont Grosse Pointe	8/13/2019 - 378155012
Zach	Price	Beaumont Grosse Pointe	8/21/2019 - 378356206
Ashvin	Patel	Beaumont Hospital - Trenton	9/9/2019 - 378492302
Tiffany	Malenfant	Beaumont Trenton/Wayne	8/7/2019 - 377854128
Lindsay	Studt	Beaumont Troy	9/13/2019 - 378495520
Dietmar	Schlecht	Beaumont Troy	8/5/2019 - 377852454
		Beaumont Royal Oak	
		Bronson	
Masakatsu	Nanamori	Henry Ford Hospital	9/10/2019 - 378492894
Bruce	Adelman	Henry Ford West Bloomfield Hospital	8/12/2019 - 378152390
Chris	Wedeven	Holland Hospital	9/16/2019 - 378502754
John	Lagorio	Mercy Muskegon	7/15/2019 - 374351910
Glenn	Gall	Saint Mary Mercy Hospital	N
		Sparrow Hospital	
Traci	Coffman	St. Joseph Mercy Hospital	9/11/2019 - 378494386
Jerrilyn	Heiter	St. Joseph Mercy Hospital	7/23/2019 - 374652148
Kathleen	Collins	St. Mary Mercy Hospital	8/27/2019 - 378456904

# MPOG Published!

- *Considerations for integration of perioperative electronic health records across institutions for research and quality improvement: the approach taken by the Multicenter Perioperative Outcomes Group (MPOG)*
- Published in Anesthesia & Analgesia September 2019
- Methods paper describing how MPOG functions
- Congratulations Dr. Colquhoun!!



Douglas Colquhoun, MB ChB, MSc, MPH  
Research Fellow

# MPOG Toolkits Featured in MSA's Newsletter

## PRESIDENT'S MESSAGE



Roy G. Soto, M.D., FASA  
President, Michigan Society of Anesthesiologists

## MPOG Toolkits: Value Added for your Practice

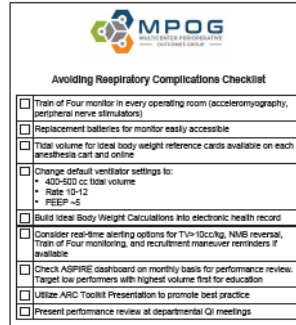
As you almost certainly know by now, ASPIRE and MPOG provide powerful means of improving the quality of anesthesia care in Michigan and beyond. I'd like to take this opportunity to discuss an expanded offering of MPOG, which is available to all comers, and not limited to ASPIRE participants. As of this writing, three Toolkits have been published and are available for free download at:

<https://mpog.org/quality/toolkits/>

The Toolkits cover best practices in avoiding respiratory complications, improving blood transfusion safety, and reducing surgical site infections. Each uses evidence-based best practices and ASPIRE outcomes measures to provide practical clinical guidance for practicing anesthesiologists.

### Avoiding Respiratory Complications Toolkit

This Toolkit provides a Powerpoint presentation designed for use by anesthesia QI champions, a checklist of potential practice and documentation system changes intended to assist anesthesia providers in avoiding respiratory complications, and a body weight/tidal volume chart that can be printed and posted on or near the anesthesia machine to assist with appropriate ventilation.



Sample of the ARC checklist

### Perioperative Transfusion Stewardship Toolkit

This Toolkit again provides a presentation for use by anesthesia champions, as well as a pocket transfusion guide which delineates appropriate transfusion criteria for surgical patients.

**MPOG**  
MULTICENTER PERIOPERATIVE  
OUTCOMES GROUP

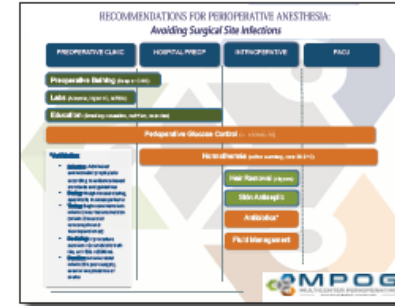
Transfusion Considerations:

- Decision to transfuse should be based on objective assessment of anemia including Hgb/Hct in addition to signs and symptoms
- For most transfusions, should be able to check hemoglobin or hematocrit before administration
- For pediatric cases (<12 years), check before first transfusion and again after 15cc/kg of PRBCs have been administered
- In the absence of acute, massive hemorrhage, administer one unit at a time
- Recheck hemoglobin or hematocrit after each transfusion to determine if additional units are indicated
- For obstetric hemorrhage or massive transfusion scenarios, follow site protocols
- Most patients do not need to be transfused to a Hct > 30%

### Considerations for transfusions

### Surgical Site Infection Toolkit

This latest Toolkit uses four ASPIRE measures to focus perioperative care to reduce surgical site infections. Again, there is an excellent Powerpoint presentation, as well as printable quick reference guide outlining infection reduction strategies.



### Surgical Site Infection one-pager

Each Toolkit also offers a list of summarized and hyperlinked references for further education, each of which potentially could be used for departmental journal club or QI presentations.

Lifelong learning and continuous quality improvement are hallmarks of physicianship. The expanding offerings of MPOG and ASPIRE are ideal ways to improve the care we provide for our Michigan patients. ASPIRE members receive regular updates on their own progress and best-practice compliance, and non-members can benchmark against published data (always available online, and, quarterly, here). I encourage you to visit the MPOG website and determine if your practice is doing everything it can to ensure safe perioperative care.

# Planned Measure Release

- **2019 (Q4)**

- **PONV 03:** Percentage of patients, regardless of age, who undergo a procedure and have a documented nausea/emesis occurrence postoperatively OR receive a rescue antiemetic in the PACU.
- **BP 03:** Percentage of cases where intraoperative hypotension (MAP < 65 mmHg) was sustained for less than 15 minutes
- **GLU 03:** Percentage of cases where glucose was checked in preop (diabetic and/or high risk cases)

- **2020**

- **GLU 01/02b:** Glycemic management expanded into preop/PACU
- **PUL 04:** Respiratory Complications postop
- **PUL 05:** Respiratory Bundle



# 2020 P4P Scorecard: Cohort 1- 4

## • What's New?

- Reduced case validations to 10/month
- No MQUARK audits!!
- Performance Measure: **BP 03**
- Cross Cohort Measure: **PUL 02**
  - Threshold increased to **> 90%** to obtain full points

## • Required Attendance

- Quality Committee Webex (5)
  - ACQR or QI Champion must attend
- Collaborative Meetings (3)
  - ACQR and QI Champion must attend

## • Document Submission

- Site Based Report x 3

2020 Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE) Collaborative Quality Initiative Performance Index Scorecard Cohort 1 - 4 : 15 Sites (excludes Trinity sites) Measurement Period: 01/01/2020 - 12/31/2020			
Measure #	Weight	Measure Description	Points
1	10%	Collaborative Meeting Participation: ASPIRE Quality Champion and Anesthesiology Clinical Quality Reviewer (ACQR) combined attendance at collaborative meetings- Three total meetings with six opportunities for attendance	
		5-6/6 Meetings	10
		4/6 Meetings	5
		3 or less Meetings	0
2	5%	Attend Webex ASPIRE Quality Committee Meetings: ASPIRE Quality Champion or ACQR attendance across five meetings	
		5 Meetings	5
		4 or less Meetings	0
3	5%	ACQR/ASPIRE Quality Champion perform data validation, case validation and submit data by the third Wednesday of each month for January through November and by the second Wednesday of the month for December	
		10 - 11/12 Months	5
		9 or Less Months	0
4	10%	Site Based Quality Meetings: Sites to hold an onsite meeting following the three ASPIRE Collaborative meetings to discuss the data and plans for quality improvement at their site	
		3 Meetings	10
		2 Meetings	5
		1 or less Meeting	0
5	20%	Performance Measure: Cross Cohort Measure Pulmonary 02 (PUL 02) - percentage of patients with median tidal volumes less than or equal to 8 ml/kg (cumulative score January 1, 2020 through December 31, 2020)	
		90% of sites ≥ 90%	20
		90% of sites ≥ 80%	10
		90% of sites < 80%	0
6	30%	Performance Measure: Blood Pressure (BP 03) - Percentage of cases where intraoperative hypotension (MAP < 65 mmHg) was sustained for less than 15 minutes (cumulative score January 1, 2020 through December 31, 2020)	
		Performance is > 90%	30
		Performance is ≥ 85%	20
		Performance is ≥ 80%	10
		Performance is < 80%	0
7	20%	Site Directed Measure: Sites choose a measure they are performing below national ASPIRE threshold by December 13, 2019 (cumulative score January 1, 2020 through December 31, 2020)	
		Performance is > 90%	20
		Performance is ≥ 80%	10



# 2020 P4P Scorecard: Trinity Sites

- **Timely data submission and emails**
  - Data submitted by September 1, 2020
  - First round of emails sent October 2020
- **Attend ACQR Retreat**
- **Required Attendance**
  - Quality Committee Webex (5)
    - ACQR or QI Champion must attend
  - Collaborative Meetings (3)
    - ACQR and QI Champion must attend
- **Document Submission**
  - Site Based Report x 3

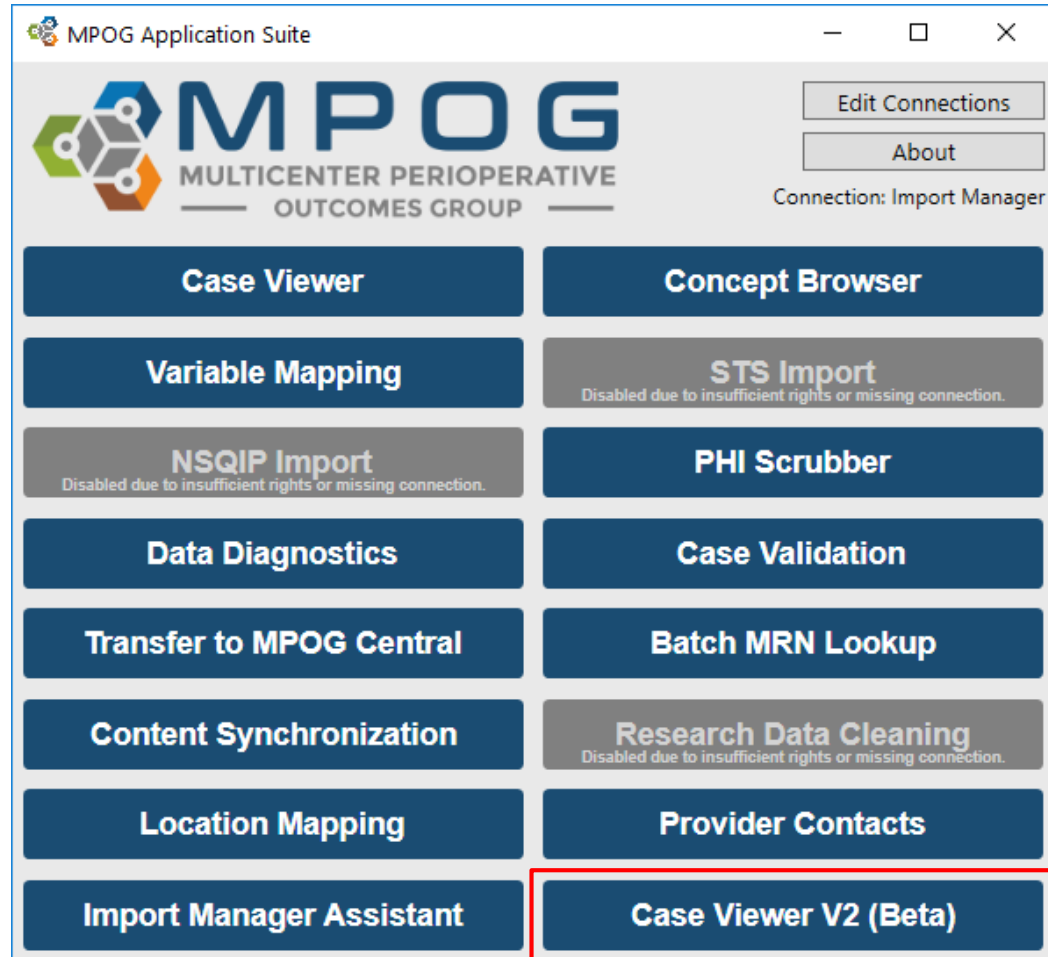
2020 Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE) Collaborative Quality Initiative Performance Index Scorecard Trinity Sites: Mercy Muskegon, St. Joseph (Ann Arbor, Chelsea, Livingston, Oakland) and St. Mary Livonia Measurement Period: 01/01/2020 - 12/31/2020			
Measure #	Weight	Measure Description	Points
1	20%	<b>Collaborative Meeting Participation: ASPIRE Quality Champion and Anesthesiology Clinical Quality Reviewer (ACQR) combined attendance at collaborative meetings- Three total meetings with six opportunities for attendance</b>	
		5-6/6 Meetings	20
		4/6 Meetings	10
		3 or less Meetings	0
2	10%	<b>Attend Webex ASPIRE Quality Committee Meetings: ASPIRE Quality Champion or ACQR attendance across five meetings</b>	
		5 Meetings	10
		4 Meetings	5
		3 or Less Meetings	0
3	5%	<b>Attend ACQR Retreat</b>	
		Yes	5
		No	0
4	10%	<b>Timeliness of data submission (with Case by Case Validation and Data Diagnostic Attestations Completed)</b>	
		Data Submitted by September 1, 2020	10
		Data Submitted by December 1, 2020	5
		Data Submitted after December 2, 2020	0
5	20%	<b>Timeliness of monthly provider e-mails</b>	
		E-mails Sent October 28, 2020	20
		E-mails Sent November 26, 2020	10
		E-mails Sent December 16, 2020	0
6	20%	<b>Performance Metric: Accuracy of data of "High" and "Required" priority data diagnostics marked as "Data Accurately Represented" in Data Diagnostics Tool</b>	
		≥ 90% diagnostics marked as "Data Accurately Represented"	20
		≥ 75 - 90% marked as "Data Accurately Represented"	10
		< 75% marked as "Data Accurately Represented"	0
7	15%	<b>Timeliness of Responses to Coordinating Center Inquiry Requests</b>	
		Within 2 business days	15
		3 - 5 business days	10
		6 - 10 business days	5
		Greater than 10 business days	0

# 2020 P4P Scorecard: Cohort 5

- New sites only...5 new sites scheduled
- There will be more ACQRs at this table next year 😊

2020 Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE) Collaborative Quality Initiative Performance Index Scorecard Cohort 5 - Year 1 (start 2020)			
Measure #	Weight	Measure Description	Points
1	20%	Collaborative Meeting Participation: ASPIRE Quality Champion and Anesthesiology Clinical Quality Reviewer (ACQR) - three total meetings with six opportunities for attendance for champion and ACQR combined	
		5-6/6 Meetings	20
		4/6 Meetings	10
		3 or less Meetings	0
3	10%	ASPIRE Champion or ACQR attend Monthly Webex ASPIRE Quality Committee Meetings	
		5 Meetings	10
		4 Meetings	5
		3 or Less Meetings	0
4	10%	Timeliness of Regulatory/Legal documentation: Business Associate Agreement (BAA), Data Use Agreement (DUA), Multicenter Perioperative Outcomes Group (MPOG) Bylaws & IRB	
		Submitted by April 1, 2020	10
		Submitted by July 1, 2020	5
		Submitted after July 2, 2020	0
5	10%	Hiring an ACQR	
		ACQR Start Date on or before February 1, 2018	10
		ACQR Start Date on or before April 1, 2018	5
		ACQR Start Date on or after April 2, 2018	0
6	20%	Timeliness of data submission (with Case by Case Validation and Data Diagnostic Attestations Completed)	
		Data Submitted by September 1, 2020	20
		Data Submitted by December 1, 2020	10
		Data Submitted after December 2, 2020	0
7	20%	Performance Metric: Accuracy of data of "High" and "Required" priority data diagnostics marked as "Data Accurately Represented" in Data Diagnostics Tool	
		≥ 90% diagnostics marked as "Data Accurately Represented"	20
		≥ 75 - 90% marked as "Data Accurately Represented"	10
		< 75% marked as "Data Accurately Represented"	0
8	10%	Timeliness of Responses to Coordinating Center Inquiry Requests	
		Within 2 business days	10
		Within 5 business days	5
		Greater than 5 business days	0

# MPOG Case Viewer 2.0



# Home Page

MPOG Case Viewer

54 years, F X 54 years, F X 44 years, M X (No case loaded) X No more tabs available

**Find a Case**  
[Fast Case Lookup](#)

**Find a Specific Case**  
Enter patient ID / case ID / MRN

**Browse for Cases**  
Find cases by using one or more of the filters below.

- CPT Code
- Institution
- MPOG Concept ID
- Opened Date Range
- Primary Surgical Service
- Procedure Text
- Registry Data
- Surgery Date Range

**Filter Shortcuts**

Case Type

- CABG
- Knee Arthroplasty
- Labor Epidural

Case Time

- Last Month
- Year to Date

Recently Opened

- Today
- Yesterday
- This Week
- Last Week
- This Month
- Last Month

Preferences

# Search Filters

The screenshot shows the MPOG Case Viewer interface. The top bar displays "32 years, M" with a search icon. The left sidebar contains navigation options: "Find a Case" (with a sub-link "Fast Case Lookup"), "Chart", "Record Search", "Administrative", "H&P", "Outcomes", "Labs", and "Preferences".

The main area is divided into two sections:

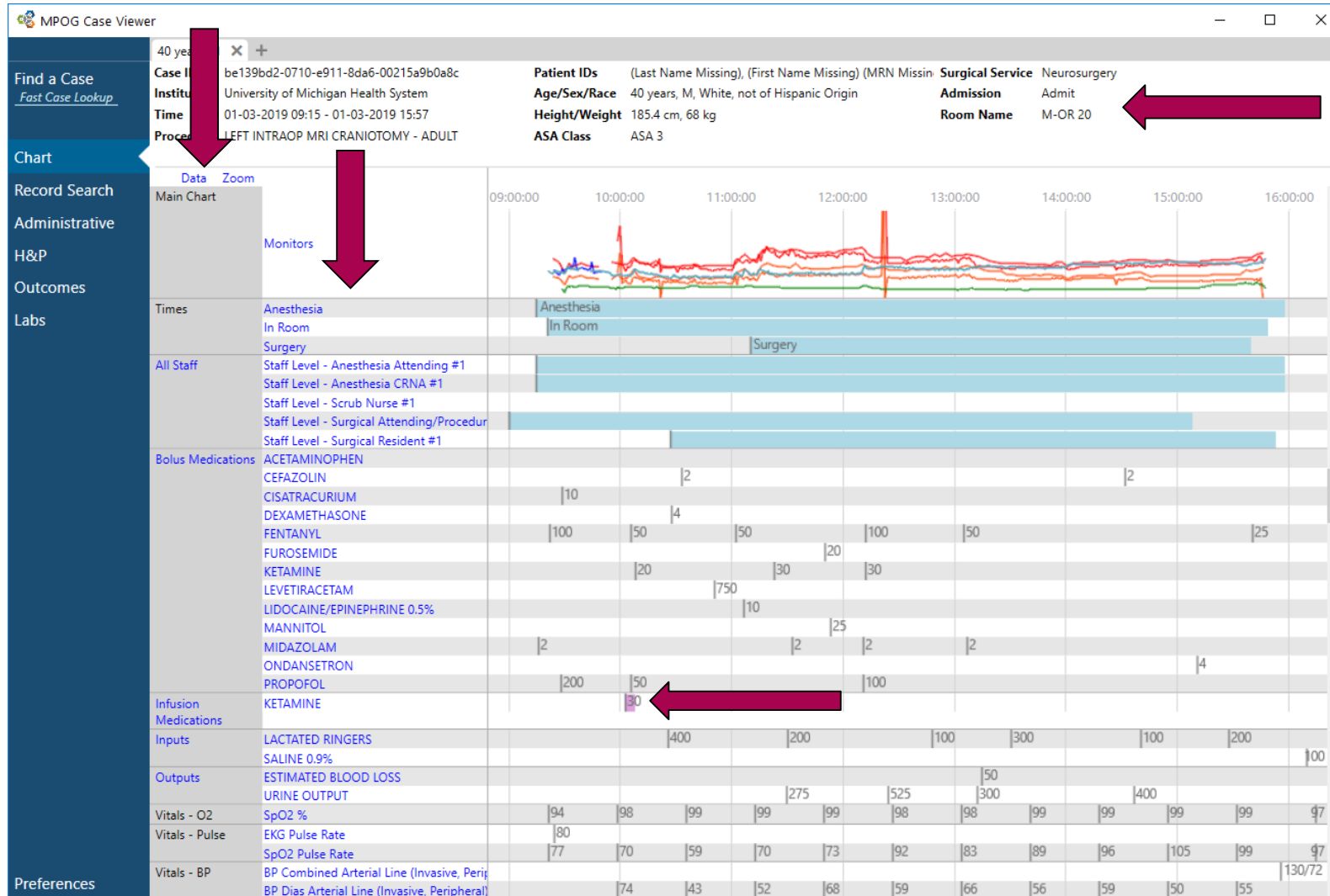
- Find a Specific Case:** Includes a text input field for "Enter patient ID / case ID / MRN".
- Browse for Cases:** Contains several filter categories, each with a search input and a close button (X):
  - CPT Code:** Input: "e.g. 01214"
  - Institution:** Dropdown menu: "University of Michigan Health System"
  - MPOG Concept ID:** Input: "e.g. 50008". A warning message below reads: "Warning: Without other filters, searching by MPOG Concept ID can be slow and may time out. Consider adding date range filter."
  - Opened Date Range:** Includes "Primary Surgical Service" (Dropdown: "General") and "Procedure Text" (Input: "e.g. CABG").
  - Registry Data:** Includes "Surgery Date Range" with "From" (7/22/2019) and "To" (7/25/2019) date pickers.
- Filter Shortcuts:** Lists shortcuts for Case Type (CABG, Knee Arthroplasty, Labor Epidural), Case Time (Last Month, Year to Date), and Recently Opened (Today, Yesterday, This Week, Last Week, This Month, Last Month).

The **Search Results** table on the right displays the following data:

Case Time	Service	Patient Age	Procedure	Institution
07-22-2019 07:30	General	69 years	HEMORRHOIDEC TOMY	UMichigan
07-22-2019 07:30	General	48 years	MIDLINE LAPAROSCOPIC SLEEVE GASTRECTOMY	UMichigan
07-22-2019 10:30	General	68 years	HIGH RESOLUTION ANOSCOPY FOR CONDYLOMA	UMichigan
07-22-2019 07:30	General	3 years	RIGHT THORACOSCOPIC LOBECTOMY (VATS) ABOVE 3 YEARS OLD	UMichigan
07-22-2019 12:00	General	48 years	LAPAROSCOPIC SLEEVE GASTRECTOMY	UMichigan
07-22-2019 09:00	General	49 years	CONDYLOMA FULGURATION - SPECIFY BODY SITE	UMichigan
07-22-2019 07:30	General	55 years	LAPAROSCOPIC SLEEVE GASTRECTOMY	UMichigan
07-22-2019 09:30	General	37 years	LAPAROSCOPIC SLEEVE GASTRECTOMY	UMichigan
07-22-2019 10:15	General	68 years	THYROIDECTOM Y	UMichigan
07-22-2019 10:15	General	64 years	MIDLINE LAPAROSCOPIC SLEEVE GASTRECTOMY	UMichigan
07-22-2019 10:15	General	74 years	LAPAROSCOPIC COLECTOMY	UMichigan

- **Filter By:**
  - Case ID, MRN, Patient ID
  - CPT Code
  - Institution
  - MPOG Concept
  - Date Range: Case Opened
  - Date Range: Surgery Date
  - Surgical Service
  - Procedure Text
- **Shortcuts:**
  - Case Type
  - Case Time
  - Recently Opened Cases

# Chart



## New Grouper Order:

- Graph
- Times
- Staff Sign In/Out
- Bolus Meds
- Infusion Meds
- Fluids (In)
- Fluids (Out)
- Vitals: O2, Pulse, BP, RR, Temp
- Ventilator
- Agents
- Flows
- Nursing
- Cardiac
- Perfusion
- Misc. Physiologic
- Labs
- Notes



MPOG Case Viewer

40 years, M

**Find a Case**  
Fast Case Lookup

**Case ID** be139bd2-0710-e911-8da6-00215a9b0a8c  
**Institution** University of Michigan Health System  
**Time** 01-03-2019 09:15 - 01-03-2019 15:57  
**Procedure** LEFT INTRAOP MRI CRANIOTOMY - ADULT

**Patient IDs** (Last Name Missing), (First Name Missing) (MRN Missing)  
**Age/Sex/Race** 40 years, M, White, not of Hispanic Origin  
**Height/Weight** 185.4 cm, 68 kg  
**ASA Class** ASA 3

**Surgical Service** Neurosurgery  
**Admission** Admit  
**Room Name** M-OR 20

**Chart**  
 Record Search  
 Administrative  
 H&P  
 Outcomes  
 Labs

**Monitors**

**Times**  
 Anesthesia  
 In Room  
 Surgery

**All Staff**  
 Staff Level - Anesthesia Attending #1  
 Staff Level - Anesthesia CRNA #1  
 Staff Level - Scrub Nurse #1  
 Staff Level - Surgical Attending/Procedur  
 Staff Level - Surgical Resident #1  
 POC - blood gas - Glucose  
 POC - Blood gas - HCO3  
 POC - Blood gas - Hct measured  
 POC - Blood gas - Lactate (unknown sam  
 POC - Blood gas - O2 sat measured (unk  
 POC - Blood gas - pCO2 (arterial)  
 POC - Blood gas - pCO2 (unknown samp  
 POC - Blood gas - pH (unknown sample  
 POC - Blood gas - pO2 (arterial)  
 POC - Blood gas - pO2 (unknown sample  
 POC - Blood gas - Potassium  
 POC - Blood gas - sample type  
 POC - Blood gas - Sodium  
 POC - Glucose (Unspecified source)  
 POC - hematocrit spun  
 Unmapped Variable

**Notes**  
 Anesthesia End  
 Anesthesia Machine Checked  
 Anesthesia Start  
 Arm Position  
 Arterial Line Placed  
 Atraumatic  
 Bite Block Placed  
 Breath Sounds Auscultated  
 Controlled Substance  
 Convective Warmer  
 Emergence (Misc)  
 Equipment Verified  
 Eye Protection  
 Fall Risk Score  
 Free Text Note  
 Gastric Contents Decompressed  
 Handoff of Care  
 Head Placed into Pins  
 Incentive Spirometer Education  
 Induction End  
 Intubation Approach  
 Intubation Tube  
 IV Access (Misc)  
 Mask Ventilation Difficulty (Scaled)

**Multiple Values**

Time	Value	Mapped As	Original Variabl
01-03-2019 06:29	Patient in Facility	Patient in Facility	Patient in Facility
01-03-2019 06:41	Assigned PreOp	Patient Available	Assigned PreOp
01-03-2019 07:57	Equipment verified in Induction Room	Equipment Verified	Equipment verifie
01-03-2019 07:57	Anesthesia Equipment Checked - Indu	Anesthesia Machine Checked	Anesthesia Equipr
01-03-2019 08:01	Anesthesia Equipment Checked - M-O	Anesthesia Machine Checked	Anesthesia Equipr
01-03-2019 08:01	M-OR 20 Pre-Induction Checklist Yes	Pre-Induction Verification	M-OR 20 Pre-Indu
01-03-2019 08:12	New Site - Left Hand 18 g, placed by h	IV Access (Misc)	Peripheral IV
01-03-2019 08:29	NPO status confirmed to be > 6 hours	NPO Verification	NPO status confir
01-03-2019 08:29	Patient identified, chart reviewed, stat	Patient Identified	Patient identified,
01-03-2019 09:15	Anesthesia Start	Anesthesia Start	Anesthesia Start
01-03-2019 09:20	Patient In Room	Patient in Room	Patient In Room
01-03-2019 09:22	Room Ready	Room Ready	Room Ready
01-03-2019 09:22	Standard monitors placed, vitals check	Monitors Specified	Standard monitor
01-03-2019 09:24	Patient >=12 years old and procedure	Venous Thromboembolism Prophylaxis	Patient >=12 year
01-03-2019 09:28	PRIOR to Induction/Initiation of Anest	Pre-Induction Verification	PRIOR to Inductio
01-03-2019 09:29	Eyes taped shut	Eye Protection	Eyes ...
01-03-2019 09:29	Mask ventilation Grade 1: Ventilated b	Mask Ventilation Difficulty (Scaled)	Mask ventilation ...
01-03-2019 09:32	Equal bilateral breath sounds auscultat	Breath Sounds Auscultated	Equal bilateral bre
01-03-2019 09:32	Orally intubated using Direct laryngos	Intubation Approach	Orally intubated u
01-03-2019 09:32	Atraumatic Laryngoscopy	Atraumatic	Atraumatic Laryng
01-03-2019 09:33	8.0 mm Single-lumen cuffed pressure	Intubation Tube	... mm ... ; ET tube
01-03-2019 09:38	Arterial Line	Arterial Line Placed	Arterial Line
01-03-2019 09:38	Arterial Line placed	Arterial Line Placed	Arterial Line place
01-03-2019 09:38	Anesthesia Induction End	Induction End	Anesthesia Induct
01-03-2019 09:39	Decompressed stomach using orogast	Gastric Contents Decompressed	Decompressed stc
01-03-2019 09:41	Soft bite block placed	Bite Block Placed	Soft bite block pla
01-03-2019 09:48	Post Induction Timeout Complete	Pre-Incision Timeout	Post Induction Tim
01-03-2019 09:58	Patient positioned Supine	Patient Position	Patient positionec
01-03-2019 09:58	Patient arms padded and tucked	Arm Position	Patient arms ...
01-03-2019 09:58	Bed turned 90 degrees	Table Turned (Misc)	Bed ...
01-03-2019 09:58	Intraoperative Monitoring Type Phase	Monitors Specified	Intraoperative Mo
01-03-2019 09:58	Do not give antibiotics until surgical pr	Prophylactic Antibiotic Variance	Do not give antibi
01-03-2019 10:06	Head placed into pins	Head Placed into Pins	Head placed into
01-03-2019 10:09	Rectal temperature probe checked anc	Temperature Probe Placed	... temperature pr
01-03-2019 10:21	Forced air warmer (convective) placed	Convective Warmer	Forced air warmer
01-03-2019 11:10	Surgical Incision	Procedure Start	Surgical Incision
01-03-2019 13:04	surgeon states that neuromonitoring i	Free Text Note	Free text
01-03-2019 13:41	MRI scan start	Free Text Note	Free text
01-03-2019 14:19	MRI Scan Complete	Procedure End	MRI Scan Comple
01-03-2019 15:32	Sign Out / Debrief Initiated	Quality Assurance (Misc)	Sign Out / Debrie
01-03-2019 15:36	Page Staff Anesthesiologist for Emerg	Emergence (Misc)	Page Staff Anesth
01-03-2019 15:39	Surgical Dressing Complete	Procedure End	Surgical Dressing
01-03-2019 15:39	Controlled Substances SECURED	Controlled Substance	Controlled Substa
01-03-2019 15:46	Neuromuscular function intact	Neuromuscular Function Intact	Neuromuscular fu
01-03-2019 15:46	Patient obeys commands	Patient Obeys Commands	Patient obeys com

## Anything with blue text is clickable:

- Click Variable: See all values in chronological order
- Click Value: See details of source variable and current mapping



MPOG Case Viewer

40 years, M

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*Fast Case Lookup*

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**Surgical Service** Neurosurgery  
**Admission** Admit  
**Room Name** M-OR 20

**Chart**

Record Search  
 Administrative  
 H&P  
 Outcomes  
 Labs

**Chart**  
Data Zoom

Main Chart  
Monitors

Times  
Anesthesia  
In Room  
Surgery

All Staff  
Staff Level - Anesthesia Attending #1  
Staff Level - Anesthesia CRNA #1  
Staff Level - Scrub Nurse #1  
Staff Level - Surgical Attending/Procedur  
Staff Level - Surgical Resident #1

Nursing  
Flows Oxygen (L/Min) 0 0.6 0.5 0.5 1.1  
Braden Score  
Braden Score: Activity  
Braden Score: Friction and Shear  
Braden Score: Mobility  
Braden Score: Moisture  
Braden Score: Nutrition  
Braden Score: Sensory Perception  
Face / Eyes checked  
Glasgow - Best Eye Response 3-->(E3) to speech  
Glasgow - Best Motor Response 6-->(M6) obeys commands  
Glasgow - Best Verbal Response 5-->(V5) oriented, appropriate  
Glasgow Coma Scale (GCS) Score 14  
Pain Assessment Tool  
Pain Score (Generic)  
Sedation Level 1

Cardiac  
Cardiac Rhythm NSR NSR NSR NSR Sinus Tachy

Perfusion

Misc. Physiologic  
GI - Symptoms  
Pulse Pressure Variation  
Train-of-four objective count (accelerom) 4 / 4  
WDL 52

Labs  
Formal lab - Albumin, Serum/Plasma  
Formal lab - Alkaline Phosphatase, Serum  
Formal lab - ALT (SGPT) Serum/Plasma

**Physiologic Entry**

Time 1/3/2019 9:36:25 AM  
 Value 77  
 Variable Mappings  
 Source Variable 200234 200234  
 MPOG Concept BP Mean Non-invasive 3025

Preferences

# Record Search

MPOG Case Viewer

40 years, M

**Find a Case**  
[Fast Case Lookup](#)

**Chart**

**Record Search**

**Administrative**

**H&P**

**Outcomes**

**Labs**

**Preferences**

Case ID: be139bd2-0710-e911-8da6-00215a9b0a8c  
Institution: University of Michigan Health System  
Time: 01-03-2019 09:15 - 01-03-2019 15:57  
Procedure: LEFT INTRAOP MRI CRANIOTOMY - ADULT

Patient IDs: (Last Name Missing), (First Name Missing) (MRN Missing)  
Age/Sex/Race: 40 years, M, White, not of Hispanic Origin  
Height/Weight: 185.4 cm, 68 kg  
ASA Class: ASA 3

Surgical Service: Neurosurgery  
Admission: Admit  
Room Name: M-OR 20

Airway

Dec 26, 2018 (8 days before surgery)

- 11:50 Airway - Snoring  
No
- 12:22 Airway - Beard  
Yes
- 12:22 Airway - Existing Airway  
None
- 12:22 Airway - Hyoid to Mentum  
T to M >= 6 cm
- 12:22 Airway - Mouth Opening  
>= 3 cm mouth opening
- 12:22 Airway - Dentition  
Normal
- 12:22 Airway - Neck anatomy  
(Normal)
- 12:22 Airway - Cervical spine  
Normal
- 12:22 Airway - Mallampati Score -- Unspecified Exam Position  
I
- 12:22 Airway - Jaw Protrusion  
A: Normal, lower incisors can protrude past upper incisors

Jan 03, 2019 (day of surgery)

- 07:03 Airway - Dentition  
None
- 09:29 Mask Ventilation Difficulty (Scaled)  
Mask ventilation Grade 1: Ventilated by mask
- 09:32 Breath Sounds Auscultated  
Equal bilateral breath sounds auscultated
- 09:32 Intubation Approach  
Orally intubated using Direct laryngoscopy; Macintosh #4; Grade 1 - Full view of Vocal Cords on the first attempt
- 09:41 Bite Block Placed  
Soft bite block placed

- Free text search for all variables containing certain words or numeric values
- Considers ALL data
- Colors determine type of MPOG concept
  - Preop: Green
  - Intraop Notes: Blue
  - Physiologic: Orange
  - Medication: Red
  - Lab: Pink
  - Outcome: Yellow



# Administrative

MPOG Case Viewer

40 years, M

**Find a Case**  
[Fast Case Lookup](#)

**Chart**

**Record Search**

**Administrative**

**H&P**

**Outcomes**

**Labs**

**Preferences**

**Case ID** be139bd2-0710-e911-8da6-00215a9b0a8c  
**Institution** University of Michigan Health System  
**Time** 01-03-2019 09:15 - 01-03-2019 15:57  
**Procedure** LEFT INTRAOP MRI CRANIOTOMY - ADULT

**Patient IDs** (Last Name Missing), (First Name Missing) (MRN Missing)  
**Age/Sex/Race** 40 years, M, White, not of Hispanic Origin  
**Height/Weight** 185.4 cm, 68 kg  
**ASA Class** ASA 3

**Surgical Service** Neurosurgery  
**Admission** Admit  
**Room Name** M-OR 20

**Demographics**

MPOG Patient ID f679779b-0710-e911-8da6-00215a9b0a8c  
 Diagnosis left likely parietal lesion

AIMS Patient ID 5996265  
 AIMS Case ID 1780836  
 AIMS Encounter ID 71560594  
 AIMS Admission Type P  
 AIMS Surgical Service NSA  
 Scheduled Time 1/3/2019 8:30:00 AM

Date of Birth Missing

**Location Hierarchy**

Locations

- Level 1 - University of Michigan Health System
- Level 2 - Ann Arbor - Main
  - Tag: Facility type - Acute care hospital
- Level 3 - C. S. Mott Children's Hospital
- Level 4 - M-OR 20
  - Tag: Facility type - Acute care hospital
  - Tag: Other - Mixed use operating room
  - Tag: Other - Pediatric

Combined Tags  
 Facility type - Acute care hospital  
 Other - Mixed use operating room  
 Other - Pediatric

**Professional Fee Billing**

Procedure Codes (CPT) Required	Code	Type	Start Time	E
	99244	Unspecified Professional Fee	12-17-2018 00:00	12
	99244	Unspecified Professional Fee	12-17-2018 00:00	12
	93010	Unspecified Professional Fee	12-26-2018 00:00	12
	99211.18	Unspecified Professional Fee	12-26-2018 00:00	12
	80053	Unspecified Professional Fee	12-26-2018 00:00	12
	85025	Unspecified Professional Fee	12-26-2018 00:00	12
	85610	Unspecified Professional Fee	12-26-2018 00:00	12
	85730	Unspecified Professional Fee	12-26-2018 00:00	12
	06950	Unspecified Professional Fee	12-26-2018 00:00	12

**Diagnosis Codes (ICD-9/10)**

Code	Type	Start Time	E
G93.9	Unspecified Professional Fee	12-17-2018 00:00	12
Z01.818	Unspecified Professional Fee	12-26-2018 00:00	12
Z01.818	Unspecified Professional Fee	12-26-2018 00:00	12

**Hospital Discharge Billing**

Diagnosis Codes (ICD-9/10) Required	Code	Type	Start Time	E
	G93.9	Hospital Discharge	12-26-2018 14:00	12
	Z01.818	Hospital Discharge	12-26-2018 14:00	12
	G93.9	Hospital Discharge	12-31-2018 10:45	12
	C34.11	Hospital Discharge	01-01-2019 10:50	01
	C79.31	Hospital Discharge	01-01-2019 10:50	01
	C34.01	Hospital Discharge	01-03-2019 06:29	01
	C79.31	Hospital Discharge	01-03-2019 06:29	01
	F17.200	Hospital Discharge	01-03-2019 06:29	01
	C40.101	Hospital Discharge	01-03-2019 06:29	01

**Procedure Codes (CPT/ICD9/ICD10)**

Code	Type	Start Time	E
71260	Hospital Discharge	12-26-2018 14:00	12
74177	Hospital Discharge	12-26-2018 14:00	12
80053	Hospital Discharge	12-26-2018 14:00	12

- **Demographics**
  - Removed Address and Phone #
- **Billing: 2 sections**
  - Professional Fee
  - Hospital Discharge
- **Location Hierarchy**
  - Hierarchy level now displayed with room tags

# History & Physical

MPOG Case Viewer

40 years, M

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missin	<b>Surgical Service</b>	Neurosurgery
<b>Institution</b>	University of Michigan Health System	<b>Age/Sex/Race</b>	40 years, M, White, not of Hispanic Origin	<b>Admission</b>	Admit
<b>Time</b>	01-03-2019 09:15 - 01-03-2019 15:57	<b>Height/Weight</b>	185.4 cm, 68 kg	<b>Room Name</b>	M-OR 20
<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT				
<b>ASA Class</b>	ASA 3				

**Assessment**

**History**

**Medications**

**Physical Exam**

**Review of Systems**

Find a Case  
*Fast Case Lookup*

Chart

Record Search

Administrative

H&P

Outcomes

Labs

Preferences

# H & P: Assessment

MPOG Case Viewer

40 years, M X +

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missin	<b>Surgical Service</b>	Neurosurgery
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<b>Time</b>	01-03-2019 09:15 - 01-03-2019 15:57	<b>Height/Weight</b>	185.4 cm, 68 kg	<b>Room Name</b>	M-OR 20
<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT	<b>ASA Class</b>	ASA 3		

### Assessment

<b>Airway</b>	<i>Airway - Beard</i>	Yes
	<i>Airway - Cervical spine</i>	Normal
	<i>Airway - Dentition</i>	None
	<i>Airway - Dentition</i>	Normal
	<i>Airway - Existing Airway</i>	None
	<i>Airway - Hyoid to Mentum</i>	T to M >= 6 cm
	<i>Airway - Jaw Protrusion</i>	A: Normal, lower incisors can protrude past upper incisors
	<i>Airway - Mallampati Score -- Unspecified Exam Position</i>	I
	<i>Airway - Mouth Opening</i>	>= 3 cm mouth opening
	<i>Airway - Neck anatomy</i>	(Normal)
	<i>Airway - Snoring</i>	No
<b>Anesthetic Plan</b>	<i>Assessment and Plan - Anesthesia Technique</i>	General?ET
<b>Heart</b>	<i>Physical Exam - Cardiac Auscultation and Exam</i>	S1, S2
	<i>Physical Exam - Cardiac Auscultation and Exam</i>	S1, S2
<b>Lung</b>	<i>Physical Exam - Lung Fields</i>	Clear?Bilat
	<i>Physical Exam - Lung Fields</i>	Clear?Bilat
<b>Neuro</b>	<i>Physical Exam - Neurologic</i>	Grossly normal

### History

### Medications

### Physical Exam

### Review of Systems

Preferences

- Airway
- Anesthetic Plan
- Heart
- Lung
- Neuro



# H & P: History

MPOG Case Viewer

40 years, M

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missing)	<b>Surgical Service</b>	Neurosurgery
<b>Institution</b>	University of Michigan Health System	<b>Age/Sex/Race</b>	40 years, M, White, not of Hispanic Origin	<b>Admission</b>	Admit
<b>Time</b>	01-03-2019 09:15 - 01-03-2019 15:57	<b>Height/Weight</b>	185.4 cm, 68 kg	<b>Room Name</b>	M-OR 20
<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT				
<b>ASA Class</b>	ASA 3				

### Assessment

### History

Family History	General - Family History of Anesthetic Problems	(None)
History Of Present Illness	General - Surgical Diagnosis	left likely parietal lesion
Past Surgical History	General - Surgical Diagnosis General - Past Surgical History	left likely parietal lesion (None)
Social History	History - Social History - General History - Social History - General History - Social History - General	TOBACCO: Tobacco Use: Current Smoker? Pack years: 23 years x 1 PPD ALCOHOL: Alcohol Consumption: 4 or more times a week (4) points.? # of alcohol drinks per day: 3 or 4 (1) point.? # of times 6 or more drinks in one occasion: Monthly (2) points. - Total Points: 7 ILLICIT DRUGS: Illicit Drug Use: None

### Medications

### Physical Exam

### Review of Systems

Preferences

- Family History
- History of Present Illness
- Past Surgical History
- Social History

# H & P: Medications

MPOG Case Viewer

40 years, M X +

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missin	<b>Surgical Service</b>	Neurosurgery
<b>Institution</b>	University of Michigan Health System	<b>Age/Sex/Race</b>	40 years, M, White, not of Hispanic Origin	<b>Admission</b>	Admit
<b>Time</b>	01-03-2019 09:15 - 01-03-2019 15:57	<b>Height/Weight</b>	185.4 cm, 68 kg	<b>Room Name</b>	M-OR 20
<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT				
<b>ASA Class</b>	ASA 3				

**Assessment**

**History**

**Medications**

Current	General - Medications - Current	Dexamethasone (Decadron, Hexadrol D/syringe)
	General - Medications - Current	Keppra (Levetiracetam)
	General - Medications - Current	dexamethasone (DECADRON)
	General - Medications - Current	levETIRAcetam (KEPPRA)
Preop	General - Medications - Anticoagulation	(None)
	General - Medications - Beta Blocker	N/A - Not on daily scheduled beta blocker
	General - Medications - Chronic Steroid Use	Current

**Physical Exam**

**Review of Systems**

Preferences

- Home Meds
- Current Meds
- Preop Meds

# H & P: Physical Exam

MPOG Case Viewer

40 years, M

**Case ID** be139bd2-0710-e911-8da6-00215a9b0a8c    **Patient IDs** (Last Name Missing), (First Name Missing) (MRN Missin    **Surgical Service** Neurosurgery  
**Institution** University of Michigan Health System    **Age/Sex/Race** 40 years, M, White, not of Hispanic Origin    **Admission** Admit  
**Time** 01-03-2019 09:15 - 01-03-2019 15:57    **Height/Weight** 185.4 cm, 68 kg    **Room Name** M-OR 20  
**Procedure** LEFT INTRAOP MRI CRANIOTOMY - ADULT    **ASA Class** ASA 3

**Assessment**

**History**

**Medications**

**Physical Exam**

Preop BMI	Physical Exam - Body Mass Index	19.8
	Physical Exam - Body Mass Index	19.8
	Physical Exam - Body Mass Index	19.8
Preop Height	Physical Exam - Height (cm)	185.4
	Physical Exam - Height (in)	73
	Physical Exam - Height (in)	73
	Physical Exam - Height (in)	73
Preop Weight	Physical Exam - Weight (kg)	68
	Physical Exam - Weight (lb)	150
	Physical Exam - Weight (oz)	2400
	Physical Exam - Weight (oz)	2400
Vitals	Pain - Current Preoperative Pain Score (Visual Analog Scale)	0 - None
	Physical Exam - BP Dias	69
	Physical Exam - BP Sys	123
	Physical Exam - Pulse Rate	69
	Physical Exam - Resp Rate	16
	Physical Exam - SaO2	97
	Physical Exam - Temperature (unspecified scale)	36.4

**Review of Systems**

Preferences

- Preop Height
- Preop Weight
- Preop BMI
- Vitals
  - HR
  - BP
  - RR
  - SpO2
  - Pain
  - Temp

# H & P: Review of Systems

MPOG Case Viewer

40 years, M

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missin	<b>Surgical Service</b>	Neurosurgery
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<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT				
		<b>ASA Class</b>	ASA 3		

### Review of Systems

<b>Cardiac</b>	<p>Cardiovascular - Functional Capacity: High</p> <p>Cardiovascular - Functional Capacity: High? Comments: Able to climb 2 flights of stairs or walk 6 blocks</p> <p>Cardiovascular - Functional Capacity: moderate Comments: Able to climb 2 flights of stairs or walk 6 blocks</p> <p>Cardiovascular - Congestive Heart Failure (None)</p> <p>Cardiovascular - Coronary Artery Disease (None)</p> <p>Cardiovascular - Family Hx CAD (None)</p> <p>Cardiovascular - Hypertension (None)</p> <p>Cardiovascular - Myocardial Infarction (None)</p> <p>Cardiovascular - Other (None)</p> <p>Cardiovascular - Symptoms (None)</p>
<b>Endocrine</b>	<p>Endocrine - Diabetes (None)</p> <p>Endocrine - Other (None)</p>
<b>GI</b>	<p>GI - Liver Disease (None)</p> <p>GI - Liver Disease: Liver mass, presumed pulmonary metastasis per patient.</p> <p>GI - Other (None)</p> <p>GI - Symptoms (None)</p>
<b>GU</b>	<p>Renal / Urologic - Other (None)</p> <p>Renal / Urologic - Renal Failure (None)</p>
<b>GYN</b>	<p>Obstetrics / Gyn - Benign Gynecology (None)</p> <p>Obstetrics / Gyn - Last Normal Menstrual Period Date: NA</p> <p>Obstetrics / Gyn - Pregnant: No</p>
<b>Hem/Onc</b>	<p>Hematologic - Bleeding Disorder (None)</p> <p>Hematologic - Other (None)</p>
<b>Muskuloskeletal</b>	<p>Muskuloskeletal - Arthritis (Unspecified) (None)</p> <p>Muskuloskeletal - Other (None)</p>
<b>Neuro/Pain</b>	<p>Neuro - Cerebrovascular Accident (None)</p> <p>Neuro - Other: R hand numbness beginning late November into December. Tremors, weakness in R hand. CT scan @ OSH showing mass on left side</p> <p>Neuro - Other (None)</p> <p>Neuro - Psychiatric Disease (None)</p> <p>Neuro - Seizures (None)</p> <p>Neuro - Symptoms: Numbness or Tingling</p>

- Cardiac
- Endocrine
- GI
- GU
- Gyn
- Hem/Onc
- Muskuloskeletal
- Neuro/Pain
- Pulmonary

# Outcomes

MPOG Case Viewer

40 years, M

<b>Case ID</b>	be139bd2-0710-e911-8da6-00215a9b0a8c	<b>Patient IDs</b>	(Last Name Missing), (First Name Missing) (MRN Missin	<b>Surgical Service</b>	Neurosurgery
<b>Institution</b>	University of Michigan Health System	<b>Age/Sex/Race</b>	40 years, M, White, not of Hispanic Origin	<b>Admission</b>	Admit
<b>Time</b>	01-03-2019 09:15 - 01-03-2019 15:57	<b>Height/Weight</b>	185.4 cm, 68 kg	<b>Room Name</b>	M-OR 20
<b>Procedure</b>	LEFT INTRAOP MRI CRANIOTOMY - ADULT	<b>ASA Class</b>	ASA 3		

### Documented Outcomes

Outcomes	Postoperative visit patient pain score	Denies Pain
	Postoperative visit patient pain score	Denies Pain
	Postoperative visit patient pain score	Denies Pain

### Mortality

Nothing documented

Find a Case  
[Fast Case Lookup](#)

Chart

Record Search

Administrative

H&P

Outcomes

Labs

Preferences

# Labs

MPOG Case Viewer

40 years, M

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**Time** 01-03-2019 09:15 - 01-03-2019 15:57    **Height/Weight** 185.4 cm, 68 kg    **Room Name** M-OR 20  
**Procedure** LEFT INTRAOP MRI CRANIOTOMY - ADULT    **ASA Class** ASA 3

	12-26-2018 11:01	01-03-2019 06:59	10:15	10:19	12:24	12:30	20:05	23:47	01-04-2019 09:19	16:34
Blood Bank	None documented									
Blood Gas	None documented									
Base Excess			1.8			1.8				
Calcium (Ionized)										
Glucose	92		104			110	112	119	127	111
HCO3	24		25.7	26	26	25.5		28		
Hemaglobin										
Hematocrit			45	45	49	42				
Lactate			1.1			1.6				
O2 Saturation (O2Hb)			100			100				
pCO2			37	37	35	35				
pH			7.5	7.5	7.5	7.5				
pO2			289	289	226	226				
Potassium	4.2		4.1	4.1	3.9	3.9		4		
Source Type			Arterial			Arterial				
Cardiac	None documented									
Chemistry	None documented									
Alanine Aminotransferase (ALT)		23								
Albumin		4.3								
Alkaline Phosphatase		86								
Anion Gap		11						7		
Aspartate Aminotransferase (AST)		22								
Bilirubin Conjugated										
Bilirubin, Total		0.4								
Calcium		10	1.2			1.1		9.1		
Calcium, Ionized								1.3		
Chloride		103						105		
Creatinine		0.9						0.9		
EGFR, Black		>60						>60		
EGFR, Non-Black		>60						>60		
Glucose				104	110					
Magnesium								1.7		
Phosphorus								4.4		
Protein		7.1								
Urea Nitrogen		14						13		
Coagulation	None documented									
International Normalized Ratio (INR)		1.1								
Partial Thromboplastin Time (PTT)		26.4								
Prothrombin Time (PT)		10.8								
Complete Blood	None documented									
Hemaglobin (HGB)										

- Times that are highlighted occurred between Anesthesia start and end.

- Grouped in Sections

- Blood Bank
- Blood Gas
- Cardiac
- Chemistry
- Coagulation
- CBC
- Drug Monitoring
- Endocrine
- Other
- Urine





# Labs

MPOG Case Viewer

40 years, M

**Case ID** be139bd2-0710-e911-8da6-00215a9b0a8c  
**Institution** University of Michigan Health System  
**Time** 01-03-2019 09:15 - 01-03-2019 15:57  
**Procedure** LEFT INTRAOP MRI CRANIOTOMY - ADULT

**Patient IDs** (Last Name Missing), (First Name Missing) (MRN Missing)  
**Age/Sex/Race** 40 years, M, White, not of Hispanic Origin  
**Height/Weight** 185.4 cm, 68 kg  
**ASA Class** ASA 3

**Surgical Service** Neurosurgery  
**Admission** Admit  
**Room Name** M-OR 20

Category	Lab Name	12-26-2018 11:01	01-03-2019 06:59	10:15	10:19	12	Multiple Values	Time	Value	Mapped As	Ori
Cardiac	O2 Saturation (O2Hb)			100							
	pCO2			37	37			12-26-2018 11:01	16.3	Formal lab - Hemoglobin	51
	pH			7.5	7.5			01-03-2019 23:47	14.3	Formal lab - Hemoglobin	51
	pO2			289	289			01-04-2019 23:35	13.5	Formal lab - Hemoglobin	51
	Potassium	4.2		4.1	4.1			01-05-2019 17:15	12.9	Formal lab - Hemoglobin	51
	Source Type			Arterial				01-05-2019 23:21	13.1	Formal lab - Hemoglobin	51
								01-07-2019 07:27	14.1	Formal lab - Hemoglobin	51
								01-08-2019 23:56	13.9	Formal lab - Hemoglobin	51
								01-11-2019 22:23	15.5	Formal lab - Hemoglobin	51
								01-12-2019 23:48	13.7	Formal lab - Hemoglobin	51
Chemistry	Alanine Aminotransferase (ALT)	23						01-13-2019 23:09	14.1	Formal lab - Hemoglobin	51
	Albumin	4.3						01-14-2019 23:47	13.5	Formal lab - Hemoglobin	51
	Alkaline Phosphatase	86						01-15-2019 23:24	12.8	Formal lab - Hemoglobin	51
	Anion Gap	11						01-17-2019 00:34	13.2	Formal lab - Hemoglobin	51
	Aspartate Aminotransferase (AST)	22						01-17-2019 22:50	13.3	Formal lab - Hemoglobin	51
	Bilirubin Conjugated							01-19-2019 04:49	13.4	Formal lab - Hemoglobin	51
	Bilirubin, Total	0.4						01-21-2019 05:51	12.9	Formal lab - Hemoglobin	51
	Calcium	10		1.2				02-05-2019 14:15	13.3	Formal lab - Hemoglobin	51
	Calcium, Ionized							04-02-2019 12:32	15.2	Formal lab - Hemoglobin	51
	Chloride	103						04-16-2019 14:01	11.4	Formal lab - Hemoglobin	51
	Creatinine	0.9						04-23-2019 12:50	11.9	Formal lab - Hemoglobin	51
	EGFR, Black	>60									
	EGFR, Non-Black	>60									
	Glucose				104						
	Magnesium										
	Phosphorus										
	Protein	7.1									
Urea Nitrogen	14										
Coagulation	International Normalized Ratio (INR)	1.1									
	Partial Thromboplastin Time (PTT)	26.4									
	Prothrombin Time (PT)	10.8									
Complete Blood Count	Hemoglobin (HGB)	16.3									
	Hematocrit (HCT)	47.4		42							
	Platelets (PLT)	387									
	WBC Count	13									
Drug Monitoring	None documented										
Endocrine	TSH										
Other	None documented										
Urine	None documented										

- Clicking on any lab variable will display all labs in the database for that patient.
- Ability to sort by any column headers: time, value, mapping...

# MPOG Coordinating Center Workflow

*Nirav Shah, MD*

*Quality Improvement Director*

*Multicenter Perioperative Outcomes Group*



# Anesthesiology Informatics

Multicenter Perioperative  
Outcomes Group

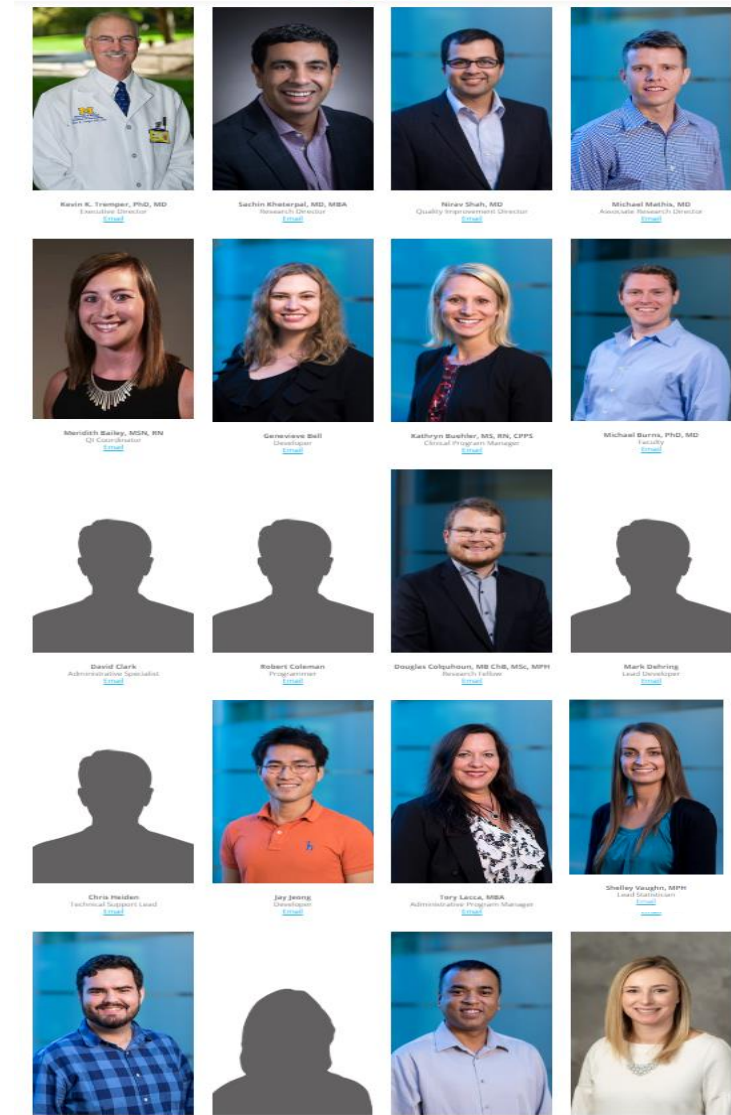
Research Data  
Warehouse

Enterprise Device  
Integration

Departmental Operations

# MPOG Staff

- Programmers (8 + 1 tech support)
- Physicians (6)
- Nurses (3)
- Administrative (2)
- Statisticians (1) +4



# Dual Mission of Research and Quality



- Descriptive / exploratory studies
- Operations analyses / practice patterns
- Outcomes research
- MPOG + surgical registry research
- Enhanced Observational Studies
- Pragmatic Clinical Trials



# Perioperative Clinical Research Committee (PCRC)

- The purpose of the committee is to ensure the appropriateness of the clinical research conducted within MPOG
- Ensure rational use of MPOG resources.
- It is primarily the responsibility of the institution's MPOG Site Principal Investigator / Research Champion to review all proposals before submission to the PCRC.

^ Step One: Determine Feasibility

^ Step Two: Draft Research Proposal

^ Step Three: Data Query Specification

^ Step Four: Estimate MPOG Cohort Sample Size / Refine Inclusions & Exclusions

^ Step Five: Institutional PI Review and Test Data Download

^ Step Six: Submit Proposal to Coordinating Center

^ Step Seven: PCRC Review

^ Step Eight: Register Study, Access Data, and Perform Analysis

^ Step Nine: Create Project Manuscript





**ASPIRE  
Dashboard**

---

Measure  
performance  
visualization



**Basecamp**

---

ASPIRE QI  
forum



**Case  
Reports**

---

Measure  
case reports



**Concept  
Browser**

---

MPOG  
concept  
dictionary



**DataDirect**

---

MPOG  
registry data  
access



**Data  
Explorer**

---

Data quality  
visualization



**MQUARK**

---

QI and  
research  
surveys



**Phenotype  
Browser**

---

Curated data  
library



**Provider  
Contacts**

---

Provider  
information



**QCDR Audit**

---

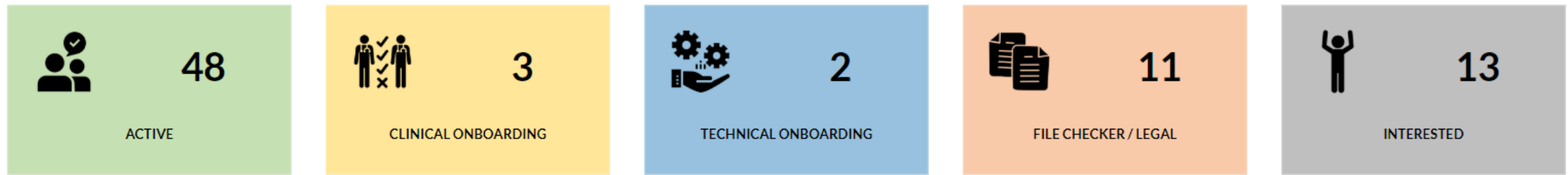
QCDR  
measure  
audit



# MPOG Portal

Used to track live status and contacts for all institutions

## Institution Browser





Upload

MPOG Status: Active

Hospital System Affiliation: None

Funded Non-Funded

P4P Cohort: 1 (2015)

Active Status: Complete - E-mails

Extraction Method: Import Manager

MPOG Clinical Lead: Meridith

MPOG Technical Lead: Anik S.

AIMS: Centricity

Site Level Designation: Primary

Private Practice Group: None

Summary Contacts Legal/Reg

**Contacts**

Principal Investigator:  
Sachin Kheterpal

Quality/ACQR Champion:  
Tim Dubovoy

IT Champion:

**Legal**

Application	✓
Institution BAA	—
Practice BAA	—
DUA	✓
IRB	✓
Bylaws	✓
Security Document	—

**Data Submissions**

**Quality Initiatives**

**Research Projects**

**Billing**

# Nursing/ QI Team

- Onboarding Sites and Site Maintenance
  - Distribute sites across team
  - Legal -> File Checker -> **Clinical Onboarding** -> Active Site
- Measure development and maintenance
- Application requirements, specifications, and feedback
- Educational Tools
  - Toolkits – extensive lit review and collaboration on design
  - Supplemental documents
- MOCA Management
  - Work with Jay to improve user experience and to manage change in measures etc.

How do we  
build  
measures?

---

Idea

---

Discussion with Quality Committee

---

Create Specification

---

Approval

---

Build

---

Test and Refine

---

Publish

---

Use (hopefully)!

# Technical Support

- Zendesk managed by Chris Heiden
- Assigns tickets to staff responsible for follow up

# Future

- More sites in MI – but probably slow growth
- More measures, but probably a better way to visualize
- More self service, likely via DataDirect

... while keeping the same collaboration and supportive environment

# October Upgrade – Coming Soon!

- **Infrastructure Improvements**
  - Pre-Mapping Framework
  - Case Viewer 2.0
  - Data Direct 2.0
- **Data Diagnostics**
  - Case Date in 3<sup>rd</sup> column of drill-down table
  - New Diagnostics
- **Case Validation**
  - Additional Questions: Preop/PACU, Labs
- **Location Mapping**
  - Multi-select rooms for tagging
  - Remove the auto-tag feature
- **Upload**
  - BRI Upload
- **Import Manager Assistant: Genevieve**



# Infrastructure Improvements

- **Case Viewer 2.0**

- Current Case Viewer will still be available until next upgrade (April 2020)
- New Case Viewer released as a new 'button' on the App Suite
- Overview discussed earlier in detail

- **Data Direct 2.0**

- Will replace current DataDirect
- Process to obtain access & download still exists. Email completed [security document](#) to **support@mpog.zendesk.com**:
- Dr. Mathis will be covering in more detail this afternoon

- **Pre-mapping (auto-mapping) will be available to new sites**

- Auto-maps common Epic variables to MPOG concepts using variable IDs & Variable descriptions
- Only available to Epic sites for this upgrade



# Data Diagnostics

- Additional column for case drill down to assist with targeting data issues

## Percentage of Cases with a PEEP Observation

The selection has 226 cases available

Procedure	Date	Has PEEP?	
THYROIDECTOMY, TOTAL THYROIDECTOMY POSSIBLE PARTIAL STERNOTOMY WITH RLN MONITORING	05-01-2014 08:30	Yes	
THYROIDECTOMY, TOTAL THYROIDECTOMY POSSIBLE PARTIAL STERNOTOMY WITH RLN MONITORING			
THYROIDECTOMY, TOTAL THYROIDECTOMY POSSIBLE PARTIAL STERNOTOMY WITH RLN MONITORING			
THY			
LAPAROSCOPIC PROSTATECTOMY WITH DAVINCI, POSSIBLE RADICAL RETROPUBIC PROSTATECTOMY	05-01-2014 08:30	Yes	
RADICAL RETROPUBIC PROSTATECTOMY, POSSIBLE RADICAL RETROPUBIC PROSTATECTOMY			
IR NEUROLOGICAL EMBOLIZATION, IR NEURO Left ICA aneurysm: Endovascular occlusion	05-01-2014 08:30	Yes	
AAA ENDO, EVAR	05-01-2014 08:30	Yes	
COLONOSCOPY, POSSIBLE BIOPSY, COLONOSCOPY, POSSIBLE BIOPSY	05-01-2014 09:30	No	
CYSTOSCOPY - RETROGRADE, CYSTOSCOPY - RETROGRADE PG URETERAL STENT PLACEMENT, CYSTOSCOPY - RETROGRADE PG	05-01-2014 10:30	No	
ECCE IOL, RIGHT POSSIBLE PARS PLANA CAPSULOTOMY- HAVE OCUTOME LEAVE UNOPENED	05-01-2014 10:30	Yes	
POSTERIOR CAPSULOTOMY, RIGHT POSSIBLE PARS PLANA CAPSULOTOMY- HAVE OCUTOME LEAVE UNOPENED			

Open Case Cancel

# Case Validation

MPOG Case Validation Utility

**Case Lookup Information**

Patient MRN: \_\_\_\_\_

Date of Operation: 10/05/2012 - 07:38

MPOG Case ID: CDE36E06-042E-E311-BF35-0017A4777402

Open Case in MPOG Case Viewer

**Questions for Validation**

+ Case Information	No Time Restriction	Add comments here
+ Preop	From Anesthesia Start - 4 Hours to Anesthesia Start	Add comments here
+ Intraop Notes	From Anesthesia Start to Patient Out of Room	Add comments here
+ Intraop Physiologic	From Anesthesia Start to Patient Out of Room	Add comments here
+ Intraop Medications	From Anesthesia Start to Patient Out of Room	Add comments here
+ Intraop Fluids	From Anesthesia Start to Patient Out of Room	Add comments here
+ Intraop Staff	No Time Restriction	Add comments here
+ Postoperative Care	From Patient Out of Room to Anesthesia End + 6 Hours	Add comments here
+ Labs	From Day Before to Day After	Add comments here

Save As Image      Save Answers      Cancel

- New Order!
- Removed ht/wt questions
- Times in military time
- Removed Patient Info Section
- Case Info:
  - Patient name/age (from patient section)
  - Procedure
  - Type of Anesthetic

# Case Validation (*DRAFT*)

- **Labs (1 day before case date to 1 day after case date, thru midnight)**

1. Was the hemoglobin (value) on (date) at (time)?
2. Was the hematocrit (value) on (date) at (time)?
3. Was the glucose (value) on (date) at (time)?

- **New Sections/Questions (Import Manager Sites ONLY)**

Preoperative (4 hours before anesthesia start to anesthesia start)

1. Was Patient In Facility at \_\_\_\_\_?
2. Did the patient receive med/dose/unit via (route) at (time)? (Last medication given in that timeframe)
3. Was the last BP:\_\_\_\_\_?

Postoperative Care (Anesthesia End to 6 hours after anesthesia end)

1. Did the patient receive med/dose/unit via (route) at (time)? (First medication given in that timeframe)
2. Was (recovery room out/phase 1 out/phase 2 out) at (time)?
3. Was the BP (value) at (time)? (closest to anes end)

# Location Mapping

- Removed the Auto-Tag button (most sites are IM now)
- Will be able to click on a Tag and see all rooms assigned that tag more easily using 'View Tag Members'
- Added functionality to be able to assign the same tags to multiple rooms using Cntl-Shift (multi-select option)
- If a header is mapped, everything underneath that header will be checked and disabled (grayed out)- See next slide for example

# Location Mapping: Current State

The screenshot displays the 'Location Mapping' application window. It is divided into three main sections:

- Unmapped Rooms:** A list of rooms that have not been mapped to a specific location. The list includes: (Room Name Not Available), HOLDING, M-CPU-EP, OR 01, and Slots.
- Room Hierarchy:** A tree view showing the organizational structure of the facility. The hierarchy is: University of Michigan Health System > Ann Arbor - Main > C. S. Mott Children's Hospital. Under 'C. S. Mott Children's Hospital', there is a list of rooms: ANTIRO-01, ANTIRO-05, ANTIRO-06, APR-M, IRMT01, M-APR, M-APR2, M-CPU-CTH1, M-CPU-CTH2, M-CPU-NEW, M-CPU-OLD, M-CT 01, M-CTMT 01, M-IR, M-MRI, M-MRI 01, and M-MRI 02.
- Location Tags:** A list of checkboxes representing different room types or services. The 'Other - Pediatric' tag is currently checked. The other tags are: Other - Hybrid operating room, Other - Minor procedure room, Other - Mixed use operating room, Other - Offsite anesthesia, Other - Outpatient surgery room, Radiology - Interventional radiology, Radiology - MRI, Recovery - ICU, Recovery - PACU, Service specific room - Cardiac operating room, Service specific room - Electrophysiology/Cardiac cath, Service specific room - Endoscopy, OB-GYN - IVF-only room, and Service specific room - Trauma.

At the bottom of the window, there are four buttons: 'Map to C. S. Mott Children's Hospi', 'Add Location', 'Rename Location', and 'Delete Location'. A fifth button, 'Unmap Location', is also present. A note at the bottom right states: 'Right click on any tag to view its rooms'.

When assigning tags to 'Parent' Locations, all 'Children' listed under the 'Parent' inherit that tag(s).

# Location Mapping

Location Mapping

Unmapped Rooms

(Room Name Not Available)  
HOLDING  
M-CPU-EP  
OR 01  
Slots

Room Hierarchy

▲ University of Michigan Health System  
▲ Ann Arbor - Main  
▲ C. S. Mott Children's Hospital  
ANTIRO-01  
ANTIRO-05  
ANTIRO-06  
APR-M  
IRMT01  
M-APR  
M-APR2  
M-CPU-CTH1  
M-CPU-CTH2  
M-CPU-NEW  
M-CPU-OLD  
M-CT 01  
M-CTMT 01  
M-IR  
M-MRI  
M-MRI 01  
M-MRI 02

Location Tags

Other - Hybrid operating room  
 Other - Minor procedure room  
 Other - Mixed use operating room  
 Other - Offsite anesthesia  
 Other - Outpatient surgery room  
 Other - Pediatric  
 Radiology - Interventional radiology  
 Radiology - MRI  
 Recovery - ICU  
 Recovery - PACU  
 Service specific room - Cardiac operating room  
 Service specific room - Electrophysiology/Cardiac cath  
 Service specific room - Endoscopy  
 OB-GYN - IVF-only room  
 Service specific room - Trauma

Map to C. S. Mott Children's Hospi

Add Location Rename Location Delete Location Unmap Location

Right click on any tag to view its rooms

- It will now be more obvious that this is the case: inherited tag is grayed out.
- Must go to the parent to 'un-tag'

# Blinded Record Index (BRI) Upload

## Historical Upload

MPOG Uploader

Database Selection: Production

Case Selection

There are 10564 cases that need to be PHI scrubbed.

- Cases awaiting upload 57749
- Cases awaiting initial upload 2
- Cases awaiting re-upload 57747
- All cases (including those already uploaded) 66431

Specify Date Range

From 1/1/2019 To 8/31/2019

Blinded Record Index

Note: You must be running a BRI service in order to use this.

- Create/update the blinded record index for this patient
- Update BRI only (Do not upload case data)

Table Selection (applicable to cases being re-uploaded only)

- Select All**
- Billing  Lab Values  Physiologic
- Case Info  Medications  Preop
- Input Outputs  Mortality  Registry Data
- Intraop Notes  Outcomes  Sites
- Intraop Staff  Patients

Use Stored Modularity Only

Start Transfer

## Monthly Upload

MPOG Uploader

Database Selection: Production

Case Selection

There are 8517 cases that need to be PHI scrubbed.

- Cases awaiting upload 137709
- Cases awaiting initial upload 79962
- Cases awaiting re-upload 57747
- All cases (including those already uploaded) 238351

Specify Date Range

From 1/1/2019 To 8/31/2019

Blinded Record Index

Note: You must be running a BRI service in order to use this.

- Create/update the blinded record index for this patient
- Update BRI only (Do not upload case data)

Table Selection (applicable to cases being re-uploaded only)

- Select All**
- Billing  Lab Values  Physiologic
- Case Info  Medications  Preop
- Input Outputs  Mortality  Registry Data
- Intraop Notes  Outcomes  Sites
- Intraop Staff  Patients

Use Stored Modularity Only

Start Transfer

# Blinded Record Index (BRI) Upload Tracking

MPOG Uploader

Upload Status

Cases

Month	Total	To Scrub	Never Sent	To Resend
September 2019	1,578	1,578	1,578	0
August 2019	8,682	0	1	228
July 2019	8,603	0	0	960
June 2019	8,070	0	36	903
May 2019	8,397	0	0	1,647
April 2019	8,764	0	0	1,074
March 2019	7,851	0	0	1,789
February 2019	7,633	0	0	1,173
January 2019	8,431	0	0	847
December 2018	7,161	0	0	1,757
November 2018	8,133	0	0	211
October 2018	8,617	0	0	1,525
September 2018	7,307	0	0	1,078

BRI

Month	Total	Sent	Not Sent
September 2019	1,578	0	1,578
August 2019	8,682	7,446	1,236
July 2019	8,603	8,603	0
June 2019	8,070	1,992	6,078
May 2019	8,397	2,134	6,263
April 2019	8,764	7,406	1,358
March 2019	7,851	7,850	1
February 2019	7,633	1,908	5,725
January 2019	8,431	2,026	6,405
December 2018	7,161	7,121	40
November 2018	8,133	7,158	975
October 2018	8,617	1,922	6,695
September 2018	7,307	1,500	5,807

Will also be adding an upload status bar for BRI within the transfer utility



# QUESTIONS?

Contact QI Coordinators with questions or suggestions:

**Kate Buehler**

[kjbucrek@med.umich.edu](mailto:kjbucrek@med.umich.edu)

734-936-7525

**Meridith Bailey**

[meridith@med.umich.edu](mailto:meridith@med.umich.edu)

734-936-4096

**Brooke Szymanski**

[bmiszy@med.umich.edu](mailto:bmiszy@med.umich.edu)

734-232-5182

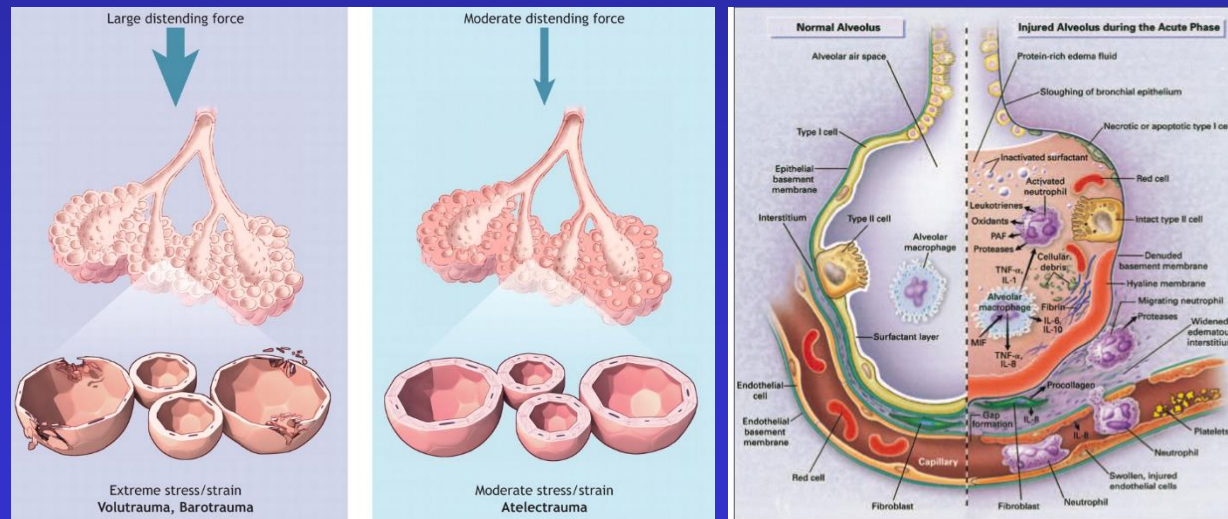
# MPOG Data Informs *“Protective”* Ventilation Strategies

Nicholas Douville, MD, PhD  
Department of Anesthesiology  
University of Michigan



# Background

- Mechanical Ventilation can lead to clinically significant lung injury
  - *Volutrauma* → low tidal volume ( $V_T$ )
  - *Barotrauma* → low driving pressures ( $\Delta P$ )  
→ low peak inspiratory pressure (PIP)
  - *Atelectrauma* → positive end expiratory pressure (PEEP)
  - *Oxygen toxicity* → Minimize  $FiO_2$



# OR Ventilation Strategies -- Limitations

- Extrapolated from ICU literature (non-representative population)
  - Prolonged ventilation
  - Pre-existing lung disease
  - Different pathology
- Does not resolve contribution of individual components (dichotomized to “protective” or “non-protective”)
- Unique stresses based upon surgical procedure
  - Laparoscopic insufflation
  - Cardiopulmonary bypass
  - Single lung isolation
- Intraoperative complications exceedingly low → limits ability to adequately power studies
- Incomplete adoption (up to 14% of patients do NOT receive protective ventilation)



# Data YOU generate helps overcome these Limitations

- MPOG: Informs optimal protective ventilation strategy through research

+

- ASPIRE: Promotes adoption of best practices informed by research

- 
- **MISSION**: *improve the care of patients undergoing anesthesia by reducing unexplained variation in practice and collaborating with anesthesia providers across Michigan, the U.S., and globally*



# Limitation: Unique stresses based upon surgical procedure

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With Post  
Complicat

## ANESTHESIOLOGY

agement

Nicholas J. Douvill

### Intraoperative Mechanical

, MD,

## Management of 1-Lung Ventilation—Variation and Trends in Clinical Practice: A Report From the Multicenter Perioperative Outcomes Group

Douglas A. Colquhoun, MB ChB, MSc, MPH,\* Bhiken I. Naik, MBBCh,†  
Marcel E. Durieux, MD, PhD,‡ Amy M. Shanks, PhD,\* Sachin Kheterpal, MD, MBA,\*  
S. Patrick Bender, MD, MPH,§ and Randal S. Blank, MD, PhD,‡ on behalf of the MPOG Investigators||

Michael R. Mathis, M.D., Neal M. Duggal, M.D.,  
Donald S. Likosky, Ph.D., Jonathan W. Haft, M.D.,  
Nicholas J. Douville, M.D., Ph.D., Michelle T. Vaughn, M.P.H.,  
Michael D. Maile, M.D., M.S., Randal S. Blank, M.D., Ph.D.,  
Douglas A. Colquhoun, M.B., Ch.B., M.Sc., M.P.H.,  
Raymond J. Strobel, M.D., M.S., Allison M. Janda, M.D.,  
Min Zhang, Ph.D., Sachin Kheterpal, M.D., M.B.A.,  
Milo C. Engoren, M.D.

*ANESTHESIOLOGY* 2019; XXX:00–00

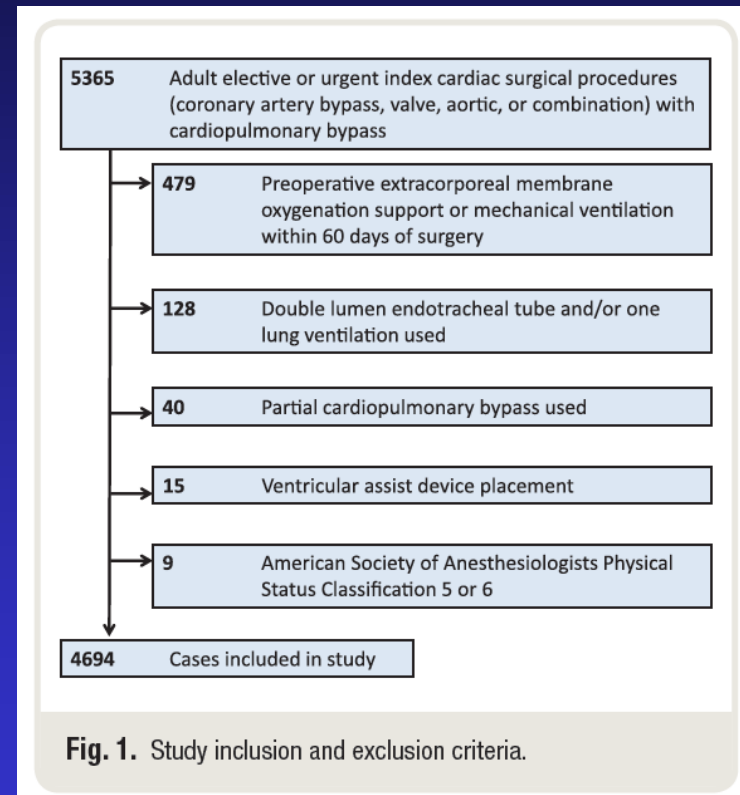
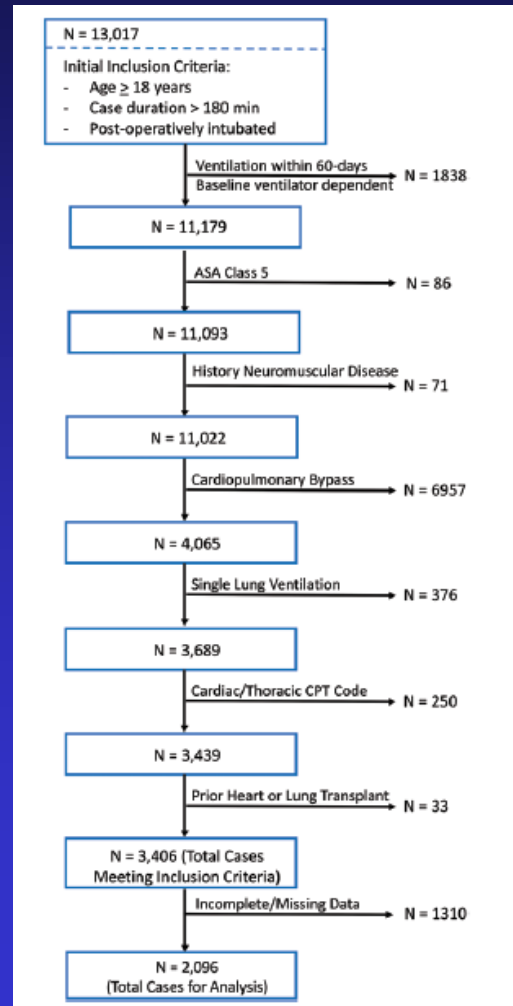


# ***Limitation: Does Not Resolve Individual Contributions***

- Earlier studies dichotomized ventilation
  - lung-protective ventilation
  - non protective ventilation
- MPOG collects a more rich set of intraoperative parameters.
  - $V_T$
  - $V_T$  (predicted body weight)
  - $\Delta P$
  - PIP
  - PEEP
  - $FiO_2$
  - $SpO_2$
- Permitting broader array of descriptive statistics
  - Time thresholds, extremes (5%, 25%, 75%, 95%)



# Limitation: Intraoperative complications exceedingly low therefore unable to adequately power studies



## RESULTS

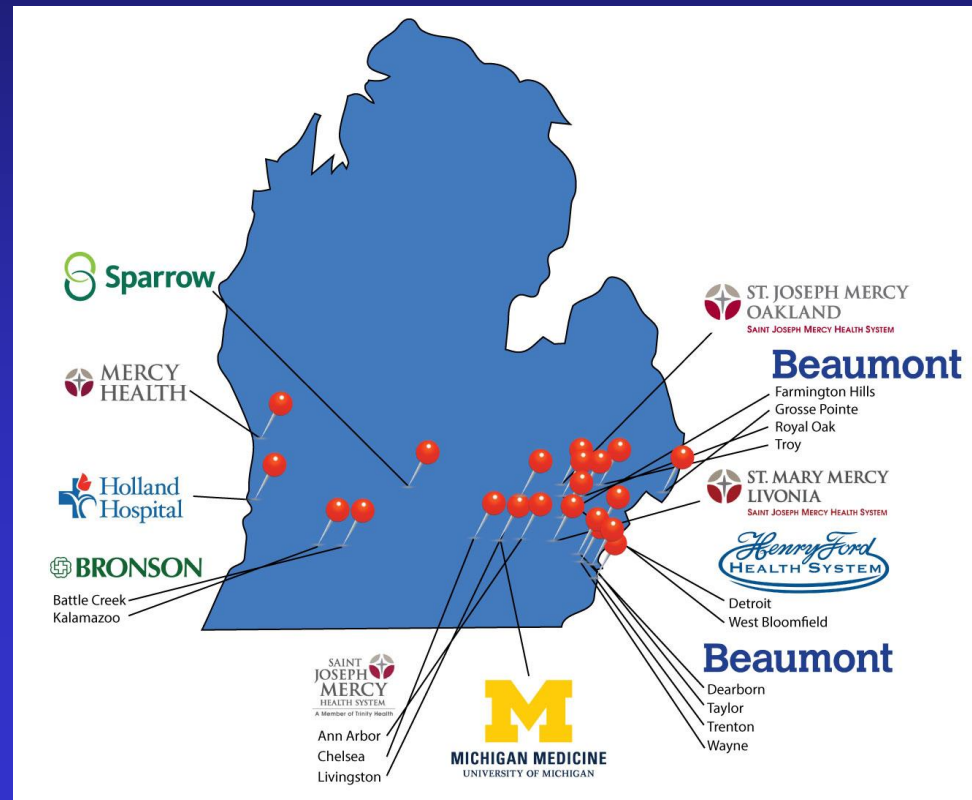
Data from 5609 patients across the 4 institutions were included in the analysis. The 2 data periods (overall versus initial) were compared. The median period of 1LV was 117 minutes (inter-





# Limitation: Poor Compliance Nationally with Practice Recommendations

## Solution: Education and Quality Improvement



# Results: Non-cardiac/Non-Thoracic Surgical Population

- **Primary Outcome:** *minimum postoperative  $PaO_2/FiO_2$* 
  - Using multivariable linear regression, we found that:
    - Each additional hour with driving pressure >16 cm H<sub>2</sub>O
    - Higher PEEP
    - Each additional hour with intraoperative SpO<sub>2</sub> <90%
  - were all independently associated with lower minimum postoperative  $PaO_2/FiO_2$



# **Results: Non-cardiac/Non-Thoracic Surgical Population**

- **Secondary Outcomes: 30-Day Mortality**
  - each 100 mmHg increase in minimum postoperative PaO<sub>2</sub>/FiO<sub>2</sub> was independently associated with a halving of the odds of death
  - Age, reduced cardiac ejection fraction on preoperative echocardiography, comorbidities, and intraoperative transfusion of packed red blood cells were also independently associated with mortality
  - No ventilation parameter was independently associated with mortality.



# Results: Non-cardiac/Non-Thoracic Surgical Population

## – Secondary Outcomes: Composite Postoperative Pulmonary Complications

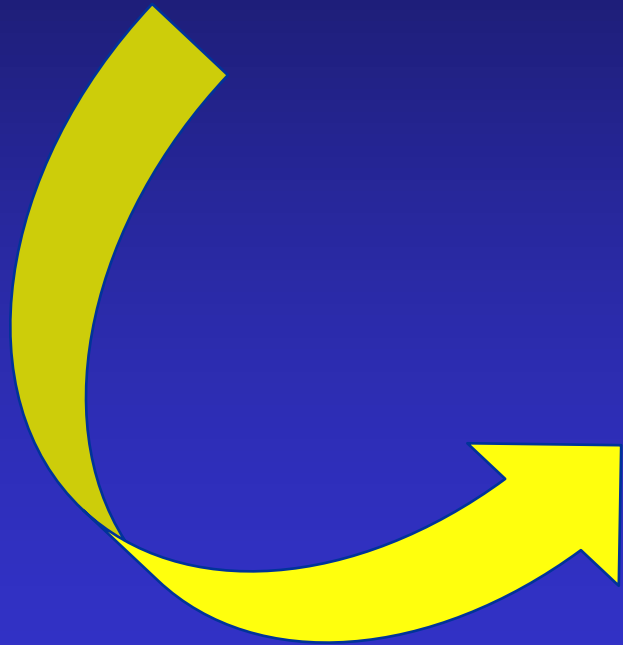
- each 100 mm Hg higher minimum  $\text{PaO}_2/\text{FiO}_2$  was associated with a lower likelihood of developing pulmonary complications
- Time (hours) with  $V_T > 500$  mL, prior history of cardiac arrhythmia, intraoperative NO use, low cardiac ejection fraction on preoperative echocardiography, and earlier year of surgery were associated with a higher likelihood of developing a class 1 pulmonary complication



# Conclusions

- Lower postoperative  $P_{aO_2}/F_{iO_2}$  was associated with increased postoperative pulmonary complications and mortality after noncardiac surgery.
- Time with  $V_T > 500$  mL and higher median  $F_{iO_2}$  were also associated with postoperative pulmonary complications, and their effects may be assessed using postoperative  $P_{aO_2}/F_{iO_2}$ .
- Among intraoperative parameters, median PEEP, median  $F_{iO_2}$ , time with driving pressure  $> 16$  cm  $H_2O$ , and time with  $SpO_2 < 90\%$  were associated with decreased postoperative  $P_{aO_2}/F_{iO_2}$ .
- The use of the intermediate outcome,  $P_{aO_2}/F_{iO_2}$ , offers a promising target for future prospective studies







**Measure Abbreviation:** PUL 02

**Measure Description:** Percentage of cases with median tidal volumes equal to or less than 8 ml/kg.

**NQS Domain:** Patient Safety

**Measure Type:** Process

**Measure Summary:** PUL 02 measures will measure the median tidal volume this measure will exclude time before when patients are not under positive 6).

**Inclusions:**

Patients undergoing endotracheal intubation.



**Measure Abbreviation:** PUL 03

**Description:** Percentage of cases in which Positive End Expiratory Pressure (PEEP) is used for patients undergoing mechanical ventilation during anesthesia.

**Measure Type:** Process

**Measure Summary:** PUL 03 is an informational measure that analyzes PEEP usage across patients undergoing mechanical ventilation during anesthesia. PUL 03 will determine if PEEP was administered (as defined by median PEEP  $\geq 2$ ) and also analyze distribution of PEEP levels:

- No PEEP (<2 cm H<sub>2</sub>O)
- Low PEEP (2-4 cm H<sub>2</sub>O)
- Moderate PEEP ( $\geq 4$  to < 8 cm H<sub>2</sub>O)
- High PEEP ( $\geq 8$  cm H<sub>2</sub>O)

**Inclusions:**

Patients undergoing endotracheal intubation.



# Summary

- Your hard work enables clinician-scientists to study complex problems that cannot be explored with traditional datasets
- These discoveries are used to assist clinicians in delivering safer, evidence-based anesthesia to our patients
- There are opportunities for both QI and research projects
  - **THANK YOU!!!**





# Research & Quality

## A Marriage Made in Heaven

*Sachin Kheterpal, MD MBA*

*Professor of Anesthesiology*

*Associate Dean for Research Information Technology*

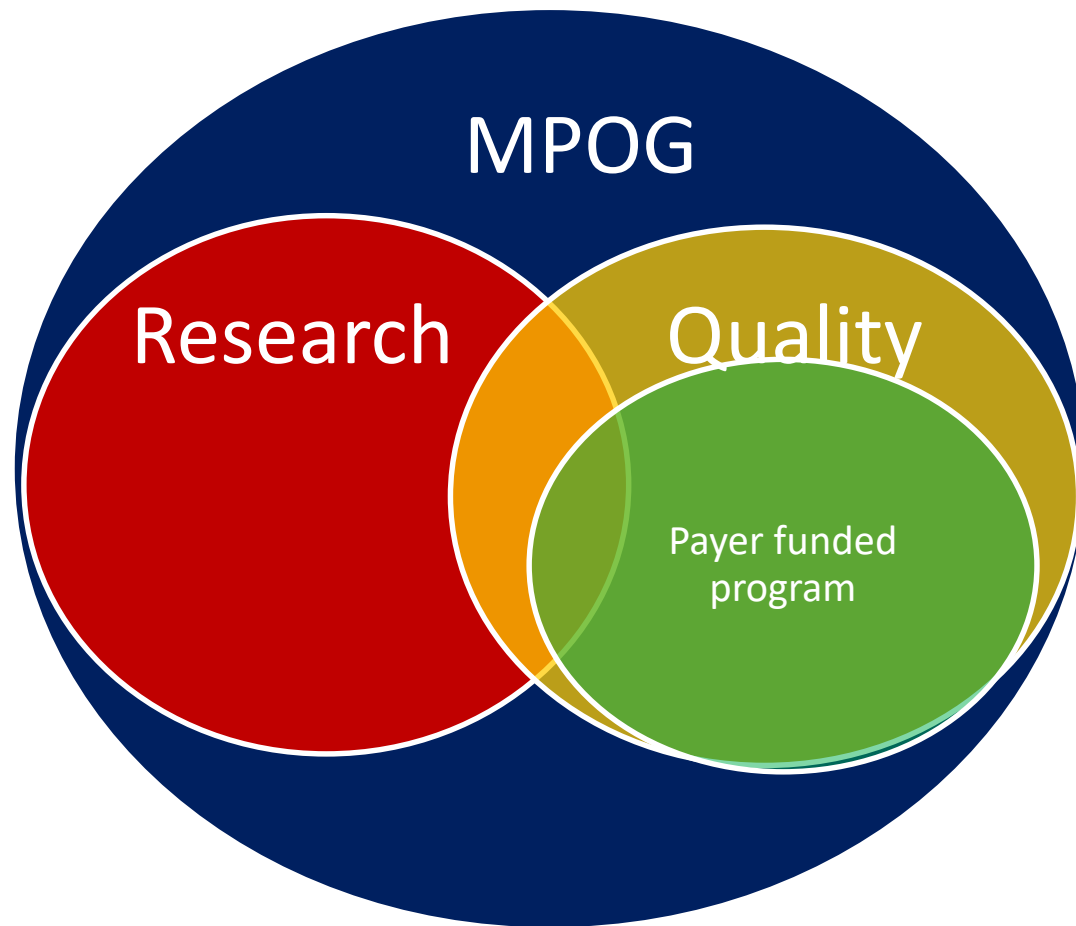
*University of Michigan Medical School*

*Co-Director, Precision Health @ University of Michigan*

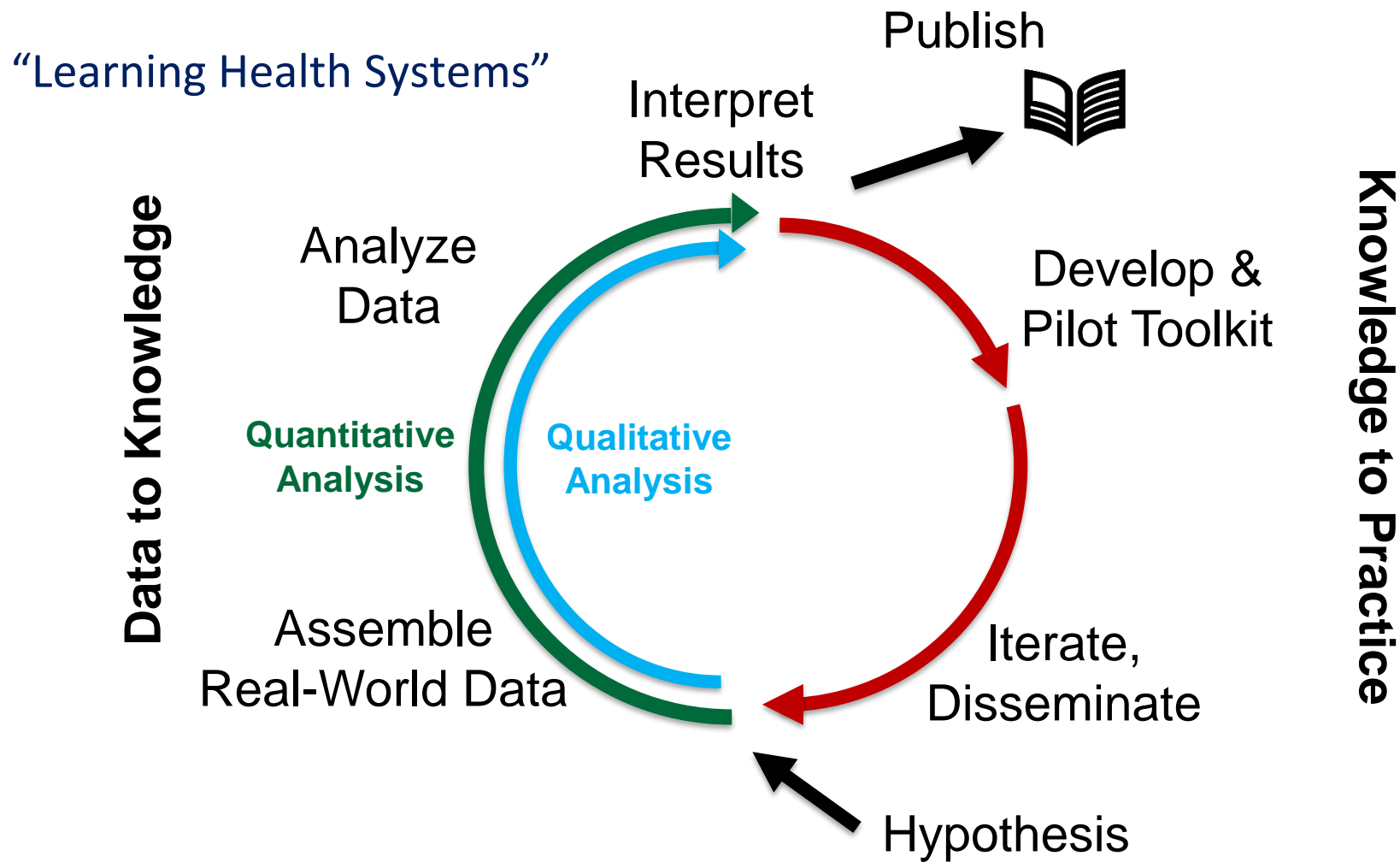


# Lesson #1

The marriage of research and quality improvement is essential



# How do we improve care?



# How do they compare?

## Research

- Data submitted q3-6 months
- PI cleans the data
- Peer review = a few advanced reviewers
- Novelty is encouraged
- Collaboration across disciplines & centers
- Seeks clinical impact
- Must evolve rapidly
- Needs high quality, reusable data elements

## Quality Improvement

- Data submitted q1 month
- Each center submits good data
- Peer review = every clinician
- Conservative consensus building
- Collaboration across disciplines & centers
- Seeks scientific foundation
- Must evolve rapidly
- Needs high quality, reusable data elements

# Developing a Research Study

- Examples of Research Studies Leveraging MPOG:

- Descriptive Studies
- Operational Analyses
- Outcomes Studies
  - MPOG Data
  - MPOG + Surgical Registry



The Society  
of Thoracic  
Surgeons



- Enhanced Observational Studies (EOS)
- Clinical Trials Network

[Anesthesiology](#), 2016 Nov;125(5):904-913.

## Reference Values for Noninvasive Blood Pressure in Children during Anesthesia: A Multicentered Retrospective Observational Cohort Study.

[de Graaff JC<sup>1</sup>](#), [Pasma W](#), [van Buuren S](#), [Duijghuisen JJ](#), [Nafiu OO](#), [Kheterpal S](#), [van Klei WA](#).

[Anesth Analg](#), 2017 Oct;125(4):1203-1211. doi: 10.1213/ANE.0000000000002305.

## Alarm Limits for Intraoperative Drug Infusions: A Report From the Multicenter Perioperative Outcomes Group.

[Berman MF<sup>1</sup>](#), [Iyer N](#), [Freudzon L](#), [Wang S](#), [Freundlich RE](#), [Housey M](#), [Kheterpal S](#); [Multicenter Perioperative Outcomes Group \(MPOG\) Perioperative Clinical Research Committee](#).

JAMA | **Original Investigation**

## Association of Overlapping Surgery With Perioperative Outcomes

[Eric Sun](#), MD, PhD; [Michelle M. Mello](#), JD, PhD; [Chris A. Rishel](#), MD, PhD; [Michelle T. Vaughn](#), MPH; [Sachin Kheterpal](#), MD, MBA; [Leif Saager](#), Dr Med, MMM; [Lee A. Fleisher](#), MD; [Edward J. Damrose](#), MD; [Bassam Kadry](#), MD; [Anupam B. Jena](#), MD, PhD; for the Multicenter Perioperative Outcomes Group (MPOG)

## Management of 1-Lung Ventilation—Variation and Trends in Clinical Practice: A Report From the Multicenter Perioperative Outcomes Group

[Colquhoun](#), Douglas, A., MB ChB, MSc, MPH<sup>§</sup>; [Naik](#), Bhiken, I., MBBCh<sup>†</sup>; [Durieux](#), Marcel, E., MD, PhD<sup>‡</sup>; [Shanks](#), Amy, M., PhD<sup>‡</sup>; [Kheterpal](#), Sachin, MD, MBA<sup>§</sup>; [Bender](#), S., Patrick, MD, MPH<sup>§</sup>; [Blank](#), Randal, S., MD, PhD<sup>‡</sup> on behalf of the MPOG Investigators

## Lesson #2

Pick the right questions

# How we pick a research topic

- What are you interested in?
- What topic would you LOVE to spend days reading?
- What bad outcomes have you seen?
- What matters to patients and clinicians?

You will hate the manuscript by the time it is published . . .





# The current literature

- You have to know the existing literature better than the experts
  - Does a knowledge gap currently exist?
  - Can the proposed project close that gap?
- Current literature
  - Patient sample size
  - Generalizability
  - Data elements collected
- PubMed search galore...
  - Get help..Medical library has lots to offer
  - Find the references in recent review article and scour it

Contemporary

Quality of study

# The three E's of evidence

- Efficacy
  - Can it work?
  - Prospective controlled trials with very specific protocols
- Effectiveness
  - Does it work?
  - Multicenter observational databases
- Efficiency
  - Is it worth it?
  - Longitudinal database incorporating clinical, cost, and quality of life data

## Lesson #3

Research without rigorous data validation, curation, & self-serve data access is wasted effort

# Data quality obsession

**M** Institution:

Module:

**By Priority**

Required (13)

High (38)

Medium (17)

Low (8)

Extraneous (31)

**By Result**

Failed (8)

Warning (4)

Passed (45)

N/A (19)

**By Attestation Status**

Accurate (0)

Not Accurate (0)

Not Contributing (0)

Missing (76)

### MPOG Data Diagnostics

**Percentage of Cases with any Fluid Recording**

Priority: [High Priority](#)

Diagnostic Executed On: 12/9/2015

**Attestation**

Current Attestation	Comment	Previous Attestations
<input type="checkbox"/> <b>Data Accurately Represented</b> The results of this diagnostic accurately represents the data from our documentation systems.		Data Accurate! 10/6/2015 1:34
<input type="checkbox"/> <b>Data Not Accurately Represented</b> The results of this diagnostic are not representative of data from our documentation and needs to be		Data Accurate! 9/23/2015 1:02
<input type="checkbox"/> <b>Not Contributing Data</b> We are unable to contribute data for this content area.		Data Accurate! 11/16/2015 2:2
		Data Accurate! 8/10/2015 8:32
		Data Accurate! 10/21/2015 10

**Pro Fee Procedures** Procedures Required

**Locations** Cases High Priority

**Hospital Discharge Diagnoses** Diagnoses High Priority

**Pro Fee Diagnoses** Diagnoses High Priority

**Cases with Fluids** Fluids High Priority

**Hospital Discharge Procedures** Procedures High Priority

**Non-Orphaned Locations** Cases Medium Priority

**Blood Loss** Fluids Medium Priority

**Medication Route Mapping** Medications High Priority

**Known Patient Race** Patients Medium Priority

**Diagnosis Text Fill Rate** Cases Low Priority

# “Nitty gritty” details

**MPOG Case Validation Utility**

**Case Lookup Information**

Patient MRN: \_\_\_\_\_

Date of Operation: 12/02/2014 - 07:54

MPOG Case ID: 5BC68F24-D57A-E411-BA4E-00215A9B0A8C

Open Case in MPOG Case Viewer

**Questions for Validation** Enter Comments Below Here

**Notes**

Did this patient receive a general anesthetic?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was anesthesia start at 'Dec 2 2014 7:54AM'?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was surgical incision at 'Dec 2 2014 10:59AM'?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was anesthesia end at 'Dec 2 2014 10:37PM'?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**Physiologic**

Did the patient have an invasive arterial line in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was the highest value for a non-invasive blood pressure (systolic) 130?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was the lowest value for a non-invasive blood pressure (systolic) 72?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Did the patient receive all of following volatile gases: Isoflurane Sevoflurane	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**Preop**

Was the patient's preoperative weight 12 kg (rounded to the nearest kg)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was the patient's preoperative height NOT FOUND cm (rounded to the nearest cm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Save Answers Cancel

# Data curation

- For example, how do you define diabetes?
  - By ICD9/10, anesthesia H&P, medication, or lab value?
  - Does every project need to re-invent the wheel?
- Build reusable “phenotypes” for various analyses
  - Patient / case characteristics
    - Race, ASA status, comorbidities
    - Emergency, weekend, or cardiac case
  - Exposure variables
    - # of min of hypotension, crystalloid equivalents, PRBC
  - Outcomes
    - Acute kidney injury, 30 day mortality, pulmonary event
- Legos, not sculptures
- Making “technics” not “duplos”
- Go to: <https://Phenotypes.mpog.org>



AnesthesiaLeftBound			
AnesthesiaRightBound			
AnesthesiaSta	ComplicationCardiacAdministrative		
AnesthesiaTec	ComplicationMyocardialInfarctionAdministrative		
AnesthesiaTec	CryoprecipitateMLDerived		
AnesthesiaTec	CryoprecipitateMLRaw		
AnesthesiaTec	CryoprecipitateUnitsRaw		
AnesthesiaTec	Crystalloids		
AnesthesiaTec	DataCaptureEnd		
AntiemeticsGi	DataCaptureStart		
ArrivedIntubat	EBL		
ArrivedIntubat	EmergencyStatus		
ArterialLinePla	EmergencyStatus_YesNo		
Asa5or6	EndotrachealTube		
AsaClass_Clea	ExtubationTimes		
BaselineBlood	FFPMLDerived		
Beard_Cleaned	FFPMLRaw		
BlockNotes	FFPUnitsRaw		
BMI	Fluid01		
Cardiac	GeneralAnesthesiaNotesPresent		
CaseDuration	GlucoseObservationsDuringAnesthesia		
CaseEnd	Height		
CaseStart	HematocritObservationsDuringAnesthesia		
CasesWithCor	HemoglobinObservationsDuringAnesthesia		
	Holiday		
	HospitalDischargeCodeCount		
	IdealBodyWeight		
	InductionDuration		
	InductionEnd		
	InductionStart		

## Lesson #4

Tools make research & QI easier

# Developing a Research Study

- Cohort Discovery – DataDirect

**MPOG**  
MULTICENTER PERIOPERATIVE  
OUTCOMES GROUP

**DATADIRECT**

**Cohort Discovery Tool**

**Demographics**

**Cases**

**Comorbidities**

**Diagnoses**

**Procedures**

**Medication Administration**

**Intraoperative Notes**

**Physiologic**

**Laboratory**

**Outcomes**

**Output View Selection**

**Individual Data**

**Groups**

**Cases**  
Perioperative case characteristics from the clinical documentation and professional fee billing systems, one case to another and reflect the information known at the time of that case.

Procedure Date 01/01/2000 to 01/23/2018

CPT Base Units 3 to 30

Weekend Case Yes No

Holiday Case Yes No

ASA Status ASA 1 ASA 2 ASA 3 ASA 4 ASA 5 ASA 6

Emergency Status Yes No Unspecified

Admission Type Inpatient Outpatient Other Unknown

Case Duration Anesthesia time 1 minute(s) to 1440 minute(s)

Cardiac Case Yes No

Anesthesia Technique General Yes No

Anesthesia Technique LMA Yes No

Endotracheal Tube Used Yes No

Anesthesia Technique Neuraxial Yes No

Anesthesia Technique Block Yes No

Logout

mathism

Current Query (cohort)

Example Query for Edwards

**Cohort Discovery Results**

Initial Count: 5,753,446 patients  
9,366,466 cases  
49 institutions

**Demographics**  
Click the arrow for more details  
5,003,279 patients

**Cases**  
Click the arrow for more details  
925,858 patients  
1,230,291 cases

**Comorbidities**  
Click the arrow for more details  
345,147 patients  
436,777 cases

**Medication Administra...**  
include: 10377  
332,298 patients  
416,765 cases

Final Count: 332,298 patients  
416,765 cases  
41 institutions  
as of 9:59 AM  
5/29/2018

*How many...*

*...adult females...*

*...undergoing elective non-cardiac surgery with general anesthesia...*

*...with hypertension, diabetes, or renal insufficiency...*

*...received heparin during the surgery?*



# Developing a Research Study

- Peer Review & Study Registration

- Single Center: ACRC

- Multicenter: PCRC



About Join Research Quality Apps Down

## PCRC Review

When a proposal is submitted online to the PCRC, it will be reviewed within 60 days. The PCRC meets on the first Tuesday of each month, from 10:00am – 12:00pm Eastern Time Zone. Proposals must be received two weeks prior to a meeting and are only considered for review. Proposals may be approved as is. If so, access will be provided to those data fields from the PCRC database. Otherwise, the PCRC will make recommendations for changes so that a future submission will be accepted.

Members of the PCRC will evaluate proposals based on the following questions:

1. Is the study as presented in the Introduction complete and comprehensive?
2. Is the specific study question concisely presented?
3. Are the data (data fields) requested specifically delineated?
4. Will the data requested answer the question being asked?
5. Is the proposed statistical technique appropriate?
6. Is the literature review complete and comprehensive?

Submit research proposals as email enclosures to [mpog-research@med.umich.edu](mailto:mpog-research@med.umich.edu).



Project #	Date Presented	Institution	First Author	Proposal and Supporting Documents	Status
PCRC-0056	03/12/2018	Weill Cornell	<a href="#">White</a>	<a href="#">The Association of Race with Utilization</a>	Accepted
PCRC-0054	01/08/2018	Virginia	<a href="#">Blank</a>	<a href="#">Management of ventilation for</a>	Accepted
PCRC-0052	01/26/2018	Michigan	<a href="#">Shanks</a>	<a href="#">Automated Identification and Validation of Detecting Physiologically</a>	Accepted

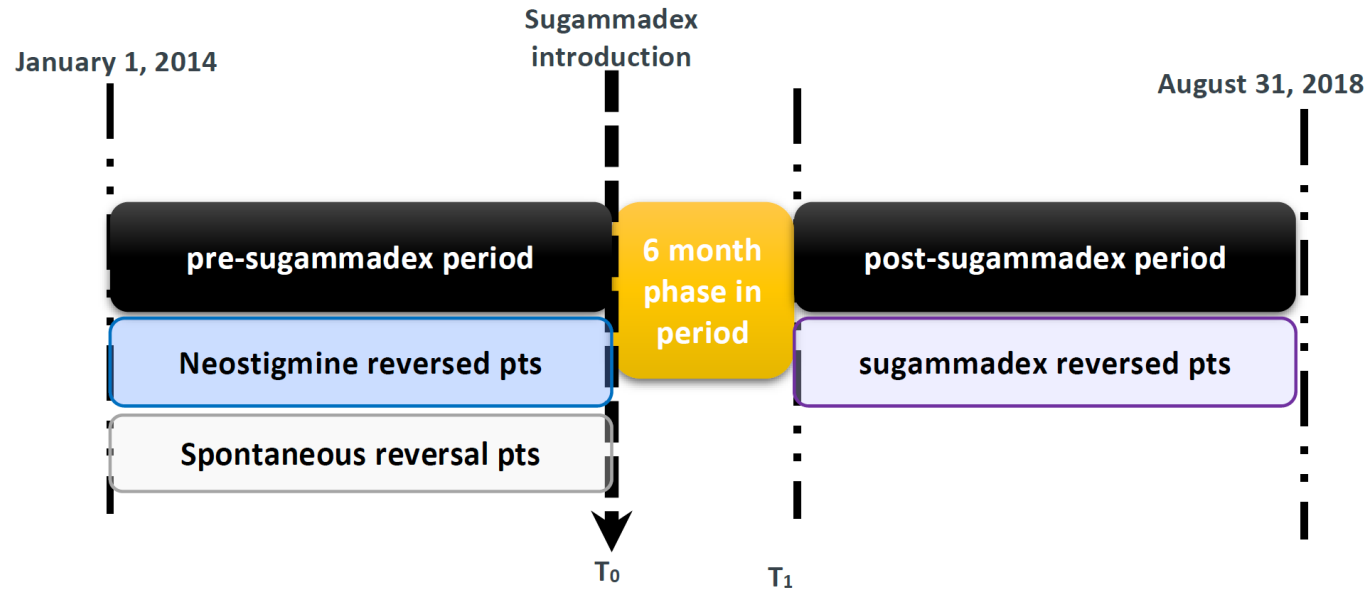


# Where has research helped the quality mission of MPOG?

- Lung Protective Ventilation
- Acute Kidney Injury
- CPT prediction
- Patient linking
- Pulmonary complications

# MPOG analysis of sugammadex

- 13 MPOG centers, 2014-2018



N= 122,025 cases eligible for matching  
N= 23,899 sugammadex cases  
N= 77,549 neostigmine cases  
N= 20,577 spontaneous reversal cases

# Compare apples to apples

- “exact” matched on age, procedure, ASA status, obesity, cardiac disease, pulmonary disease, CHF, liver disease
- Adjust for last TOF before extubation, fluid balance, opioids, time from NMB to extubation, NMB to reversal

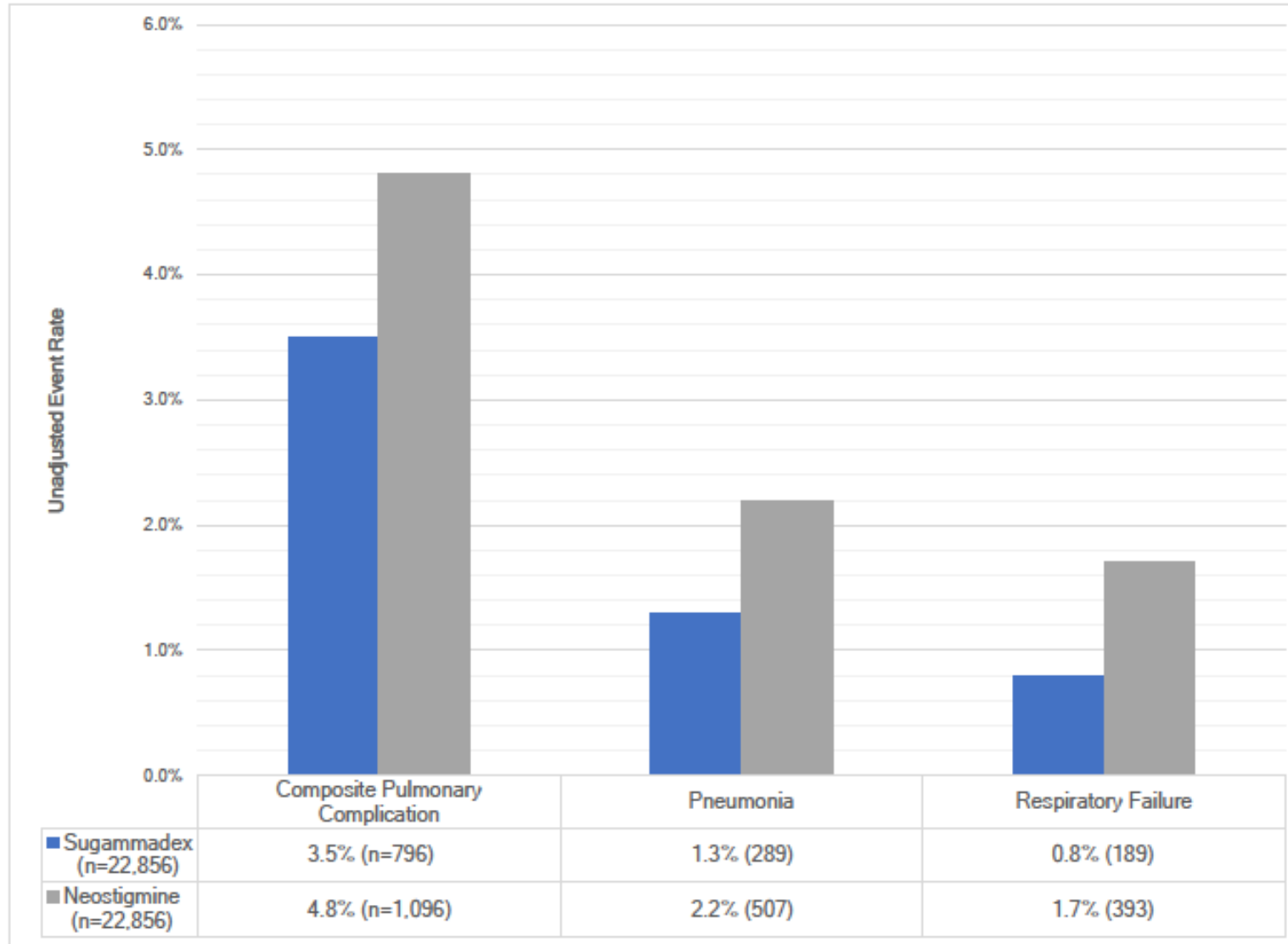


Figure 1: Major pulmonary complication event rates (unadjusted) in matched cohort of patients undergoing noncardiac inpatient surgery

# How much does it matter?

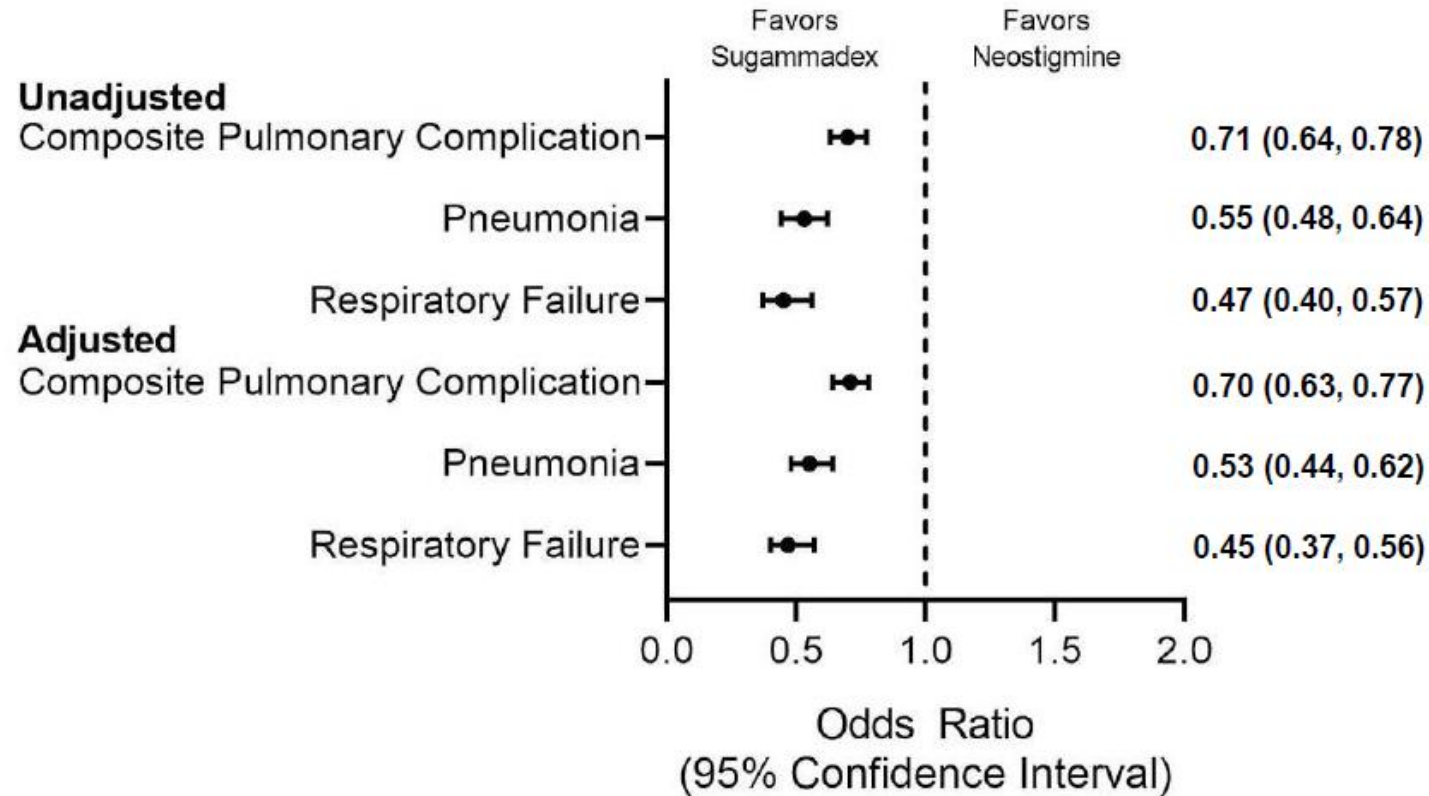


Figure 2: Unadjusted and adjusted association of sugammadex versus neostigmine administration with major pulmonary complications after inpatient noncardiac surgery

## Want to learn more about research process?

- <https://medicine.umich.edu/dept/anesthesiology/research/outcomes-research>

**Zingerman's**®  
**DELICATESSEN**

**LUNCH: 11:15 – 12:15**



# Afternoon Agenda

- ACQR/Programmer Q & A
- ACQR Round Table Discussion
- Measure Updates
- Data Direct 2.0 Preview



# ACQR/Programmer Q & A

- IM Assistant – New User Guide
  - How to Interpret/use logs to troubleshoot data issues
- BRI Questions

```
b) && b.push(a[c]); } c = {}; c.j = a.length, c.unique = b.;
urn c; } function k() { var a = 0, b = $("#User_logged").a()
r\n\n\n/gm, " "), b = q(b), b = b.replace(/ +(?= )/g, "")
t(" "); for (var b = [], a = [], c = [], a = 0; a < inp_arra
r(inp_array[a], c) && (c.push(inp_array[a]), b.push({word:
ystepuje:0}), b[b.length - 1].c = r(b[b.length - 1].b, inp_
sort(s()); a.reverse(); b = m(a, " "); -1 < b && a.splice(b
0); -1 < b && a.splice(b, 1); b = m(a, ""); -1 < b && a.splice(b
n a; } function q(a) { return a
b) { for (var
```

# ACQR Round Table Discussion: Toolkits and EPIC Build

- SSI Toolkit Feedback
  - Did you find it helpful?
  - Have you shared with your team?
  - Recommendations for additional content
- Next Toolkit Ideas?
- Epic Build Discussion
  - What variables or structured builds have you worked with your Epic team to add to enable participation with ASPIRE measures?
  - Any recommendations for how to be successful with these modifications/additions?
  - Are you willing to share your build with another health system?



## Surgical Site Infection Toolkit

This toolkit encompasses ASPIRE  
Measures TEMP 01, TEMP 02, TEMP 03  
and GLU 01.

[Click Here](#)

# Import Manager Assistant

Primarily for technical staff, but useful for:

- **Viewing logs/handoff queue:** Where is my data? Is it coming? Did any errors occur?
- **Overall status of data import:** At a quick glance, how is the import going? What am I waiting for? What issues have arisen?
- **File column issues:** For files that have an issue with the number of columns, which rows are affected? Do they have too many or too few columns? How many columns are there supposed to be?
- **Viewing imported files:** What do the underlying files look like?
- **Handoff Settings:** What are the settings for handoff?

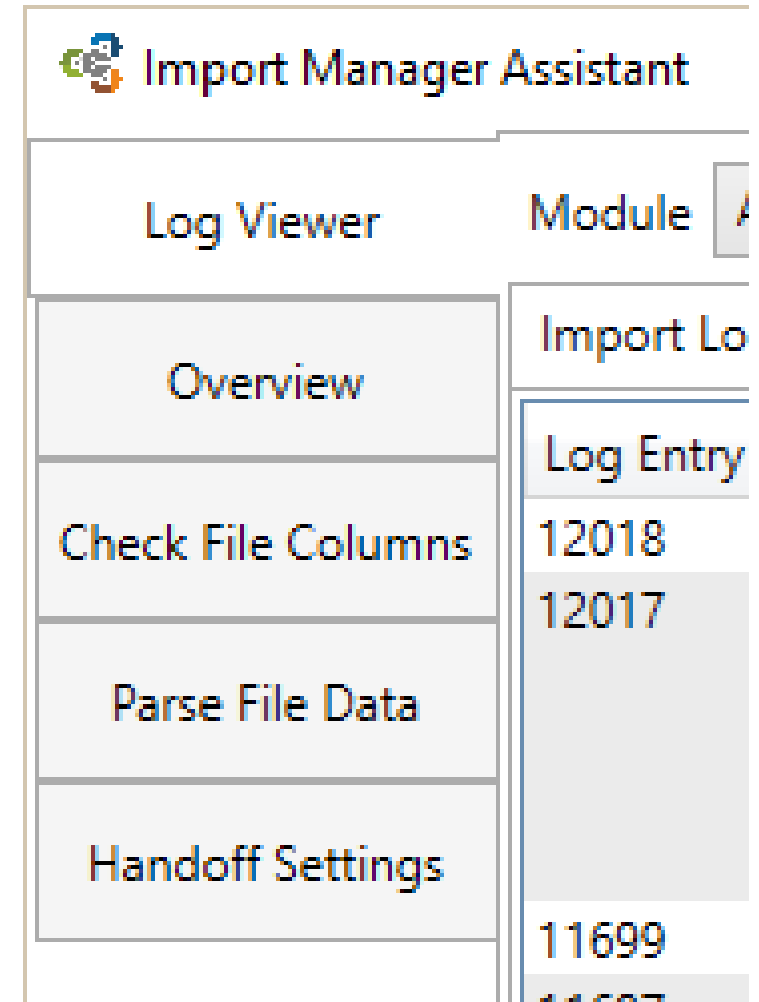




# Import Manager Assistant

There are five tabs to address these issues:

- **Log Viewer:** This tab displays the various import manager logs and the handoff queue.
- **Overview:** This tab contains a color-coded grid representing the current status of import manager. This is a summary view of the logs.
- **Check File Columns:** This tab enables the user to see which rows in an imported file have the incorrect number of columns.
- **Parse File Data:** This tab enables the user to view the contents of an imported file.
- **Handoff Settings:** This tab contains the current settings for handoff for this instance.



Log Viewer	Module	Log Entry
Overview	Import Lo	
Check File Columns		12018
Parse File Data		12017
Handoff Settings		11699
		11697

# First Tab: Log Viewer

The Log Viewer tab displays the import, consume, and handoff logs as well as the handoff queue.

Import Manager Assistant

Log Viewer

Module: All Target Date Range: Select a date [15] to Select a date [15] Had Error:  Yes  No Execution Date Range: Select a date [15] to Select a date [15]

Overview: Import Log | Consume Log | Handoff Log | Handoff Queue

Log Entry ID	Instance	File Name	Start	End	Error	File Size (Bytes)	Is MultiDate
5347	MPOG_MAS	StaffTracking_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:23 AM	6/28/2019 8:12:23 AM	(none)	15,931	False
5346	MPOG_MAS	StaffTracking_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:23 AM	6/28/2019 8:12:23 AM	(none)	148,295	False
5345	MPOG_MAS	Procedures_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:22 AM	6/28/2019 8:12:23 AM	(none)	2,133,918	False
5344	MPOG_MAS	Procedures_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:22 AM	6/28/2019 8:12:22 AM	(none)	20,408,486	False
5343	MPOG_MAS	PeriopObservations_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:20 AM	6/28/2019 8:12:22 AM	(none)	15,468,414	False
5342	MPOG_MAS	Diagnoses_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:18 AM	6/28/2019 8:12:20 AM	(none)	13,184,377	False
5341	MPOG_MAS	CaseCrosswalk_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:18 AM	6/28/2019 8:12:18 AM	(none)	23,574	True
5340	MPOG_MAS	StaffTracking_V1_Centricity_20190624_20190628.csv	6/28/2019 7:43:02 AM	6/28/2019 7:43:02 AM	(none)	164,651	False
5339	MPOG_MAS	StaffTracking_V1_Centricity_20190529_20190628.csv	6/28/2019 7:43:02 AM	6/28/2019 7:43:02 AM	(none)	167,896	False
5338	MPOG_MAS	Procedures_V1_Centricity_20190529_20190628.csv	6/28/2019 7:43:01 AM	6/28/2019 7:43:02 AM	(none)	6,229,000	False
5337	MPOG_MAS	PeriopObservations_V1_Centricity_20190624_20190628.csv	6/28/2019 7:42:48 AM	6/28/2019 7:43:01 AM	(none)	152,546,702	False
5336	MPOG_MAS	PeriopObservations_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:48 AM	(none)	156,707,580	False
5335	MPOG_MAS	PeriopObservations_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	0	False
5334	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	1,254,687	False
5333	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	145,258	False
5332	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	1,131,646	False
5331	MPOG_MAS	PeriopAdministrations_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	922,601	False
5330	MPOG_MAS	PeriopAdministrations_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	97,001	False
5329	MPOG_MAS	PeriopAdministrations_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	791,839	False
5328	MPOG_MAS	Patients_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	75,500	False
5327	MPOG_MAS	Patients_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	6,470	False
5326	MPOG_MAS	Patients_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	64,236	False
5325	MPOG_MAS	Labs_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:24 AM	6/28/2019 7:42:35 AM	(none)	194,965,970	False
5324	MPOG_MAS	Labs_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:23 AM	6/28/2019 7:42:24 AM	(none)	10,760,891	False
5323	MPOG_MAS	HospitalMortality_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	320	False
5322	MPOG_MAS	Labs_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:23 AM	(none)	164,897,933	False
5321	MPOG_MAS	HospitalMortality_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	520	False
5320	MPOG_MAS	HospitalMortality_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	440	False
5319	MPOG_MAS	Diagnoses_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:19 AM	(none)	4,931,586	False
5318	MPOG_MAS	Diagnoses_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	1,776,713	False
5317	MPOG_MAS	Cases_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	106,249	False
5316	MPOG_MAS	Cases_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	7,955	False
5315	MPOG_MAS	Cases_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	89,575	False
5314	MPOG_MAS	CaseCrosswalk_V1_Centricity_20190624_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	29,332	True
5313	MPOG_MAS	CaseCrosswalk_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	28,802	True

Export as a spreadsheet

# Log Viewer: Import Log

The import log shows which files have been brought into the import manager database (step 1 of 3).

The screenshot shows the 'Import Manager Assistant' window with the 'Log Viewer' tab selected. The 'Import Log' sub-tab is active. The table displays the following data:

Log Entry ID	Instance	File Name	Start	End	Error
12018	AIMS	EmptyFile.txt	4/26/2019 2:04:12 PM	4/26/2019 2:04:12 PM	(none)
12017	AIMS	BadDate.txt	4/26/2019 2:04:12 PM	4/26/2019 2:04:12 PM	System.FormatException String was not recognized as a valid DateTime. at System.DateTime.ParseExact(String s, String format, at MpogFlatFileImporter.Program.ProcessMultiDateFil at MpogFlatFileImporter.Program.Main(String[] args)
11699	AIMS	Cases_V1_Epic_20000105-16123870-OBSERVATIONS_20190128.csv	1/29/2019 7:05:07 AM	1/29/2019 7:05:08 AM	(none)
11697	AIMS	Cases_V1_Epic_20000102_20190129.csv	1/29/2019 7:05:06 AM	1/29/2019 7:05:06 AM	(none)
11698	AIMS	Cases_V1_Epic_20000101_20190129.csv	1/29/2019 7:05:06 AM	1/29/2019 7:05:07 AM	(none)
11696	AIMS	PeriopObservations_V1_Epic_20000102_20190129.csv	1/29/2019 7:05:04 AM	1/29/2019 7:05:06 AM	(none)
11695	AIMS	Labs_V1_Epic_20000101_20190129.csv	1/29/2019 7:05:01 AM	1/29/2019 7:05:04 AM	(none)
11692	AIMS	Cases_V1_Epic_20000104_20190128.csv	1/28/2019 7:05:34 AM	1/28/2019 7:05:34 AM	(none)
11693	AIMS	Patients_V1_Epic_20000104_20190128.csv	1/28/2019 7:05:34 AM	1/28/2019 7:05:34 AM	(none)
11694	AIMS	PeriopObservations_V1_Epic_20000103_20190128.csv	1/28/2019 7:05:34 AM	1/28/2019 7:05:47 AM	(none)
11691	AIMS	Labs_V1_Epic_20000102_20190128.csv	1/28/2019 7:05:33 AM	1/28/2019 7:05:34 AM	(none)
11690	AIMS	Labs_V1_Epic_20000101_20190128.csv	1/28/2019 7:05:30 AM	1/28/2019 7:05:33 AM	(none)
11689	AIMS	PeriopObservationDetails_V1_Epic_20000105-16100362-OBSERVATIONS_20190127.csv	1/28/2019 7:05:00 AM	1/28/2019 7:05:30 AM	(none)
11688	AIMS	StaffTracking_V1_Epic_20000104_20190127.csv	1/27/2019 7:05:03 AM	1/27/2019 7:05:03 AM	(none)
11687	AIMS	PeriopObservationDetails_V1_Epic_20000104_20190127.csv	1/27/2019 7:05:01 AM	1/27/2019 7:05:03 AM	(none)
11686	AIMS	StaffTracking_V1_Epic_20000101_20190126.csv	1/26/2019 7:05:18 AM	1/26/2019 7:05:18 AM	(none)
11685	AIMS	Patients_V1_Epic_20000101_20190126.csv	1/26/2019 7:05:17 AM	1/26/2019 7:05:18 AM	(none)
11683	AIMS	Cases_V1_Epic_20000104_20190126.csv	1/26/2019 7:05:06 AM	1/26/2019 7:05:06 AM	(none)
11684	AIMS	PeriopObservations_V1_Epic_20000104_20190126.csv	1/26/2019 7:05:06 AM	1/26/2019 7:05:17 AM	(none)
11682	AIMS	Cases_V1_Epic_20000105-16055112-OBSERVATIONS_20190125.csv	1/26/2019 7:05:04 AM	1/26/2019 7:05:06 AM	(none)
11681	AIMS	PeriopObservations_V1_Epic_20000103_20190126.csv	1/26/2019 7:05:01 AM	1/26/2019 7:05:04 AM	(none)
11680	AIMS	PeriopObservations_V1_Epic_20000102_20190125.csv	1/25/2019 7:05:27 AM	1/25/2019 7:05:34 AM	(none)
11678	AIMS	Cases_V1_Epic_20000103_20190125.csv	1/25/2019 7:05:04 AM	1/25/2019 7:05:04 AM	(none)
11679	AIMS	PeriopObservationDetails_V1_Epic_20000105-16017262-OBSERVATIONS_20190123.csv	1/25/2019 7:05:04 AM	1/25/2019 7:05:27 AM	(none)
11677	AIMS	Labs_V1_Epic_20000102_20190125.csv	1/25/2019 7:05:01 AM	1/25/2019 7:05:04 AM	(none)
11675	AIMS	Patients_V1_Epic_20000102_20190124.csv	1/24/2019 7:05:03 AM	1/24/2019 7:05:03 AM	(none)
11676	AIMS	StaffTracking_V1_Epic_20000101_20190124.csv	1/24/2019 7:05:03 AM	1/24/2019 7:05:03 AM	(none)
11674	AIMS	Labs_V1_Epic_20000101_20190124.csv	1/24/2019 7:05:02 AM	1/24/2019 7:05:03 AM	(none)
11673	AIMS	PeriopObservations_V1_Epic_20000102_20190124.csv	1/24/2019 7:05:01 AM	1/24/2019 7:05:02 AM	(none)
11672	AIMS	Cases_V1_Epic_20000102_20190123.csv	1/23/2019 7:05:11 AM	1/23/2019 7:05:11 AM	(none)

- If there is an end time and no error, the import was successful.
- If there is not an end time, either the import is in progress or was interrupted.
- An error means the file was not imported and will be retried during the next import run.

# Log Viewer: Consume Log

The consume log shows which data has been brought into the staging tables (step 2 of 3).

Log Entry ID	Instance	File Name	Start	End	Module	Target Date	Pull Date	Error
559157	AIMS	StaffTracking_V1_Centricity_20170205_20190515.csv	5/15/2019 2:46:24 PM	5/15/2019 2:46:25 PM	StaffTracking	2/5/2017	5/15/2019	(none)
559156	AIMS	StaffTracking_V1_Centricity_20170205_20170310.csv	5/15/2019 2:46:24 PM	5/15/2019 2:46:24 PM	StaffTracking	2/5/2017	3/10/2017	File contains invalid number of columns
559155	AIMS	PeriopAdministrations_V1_Epic_20180409_20180720.csv	5/15/2019 2:46:23 PM	5/15/2019 2:46:24 PM	PeriopAdministrations	4/9/2018	7/20/2018	Cannot insert the value NULL into column
559154	AIMS	Patients_V1_Epic_20170106_20180325.csv	5/15/2019 2:46:23 PM	5/15/2019 2:46:23 PM	Patients	1/6/2017	3/25/2018	File contains invalid number of columns
559153	AIMS	Patients_V1_Epic_20170105_20180325.csv	5/15/2019 2:46:23 PM	5/15/2019 2:46:23 PM	Patients	1/5/2017	3/25/2018	File contains invalid number of columns
559152	AIMS	Cases_V1_AIMS_20180207_20180215.csv	5/15/2019 2:46:22 PM	5/15/2019 2:46:23 PM	Cases	2/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559151	AIMS	Cases_V1_AIMS_20180206_20180215.csv	5/15/2019 2:46:22 PM	5/15/2019 2:46:22 PM	Cases	2/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559150	AIMS	Cases_V1_AIMS_20180107_20180215.csv	5/15/2019 2:46:21 PM	5/15/2019 2:46:22 PM	Cases	1/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559149	AIMS	Cases_V1_AIMS_20180106_20180215.csv	5/15/2019 2:46:21 PM	5/15/2019 2:46:21 PM	Cases	1/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559148	AIMS	StaffTracking_V1_Centricity_20170205_20190515.csv	5/15/2019 2:44:51 PM	5/15/2019 2:44:51 PM	StaffTracking	2/5/2017	5/15/2019	(none)
559147	AIMS	StaffTracking_V1_Centricity_20170205_20170310.csv	5/15/2019 2:44:50 PM	5/15/2019 2:44:51 PM	StaffTracking	2/5/2017	3/10/2017	File contains invalid number of columns
559146	AIMS	PeriopAdministrations_V1_Epic_20180409_20180720.csv	5/15/2019 2:44:50 PM	5/15/2019 2:44:50 PM	PeriopAdministrations	4/9/2018	7/20/2018	Cannot insert the value NULL into column
559145	AIMS	Patients_V1_Epic_20170106_20180325.csv	5/15/2019 2:44:50 PM	5/15/2019 2:44:50 PM	Patients	1/6/2017	3/25/2018	File contains invalid number of columns
559144	AIMS	Patients_V1_Epic_20170105_20180325.csv	5/15/2019 2:44:49 PM	5/15/2019 2:44:50 PM	Patients	1/5/2017	3/25/2018	File contains invalid number of columns
559143	AIMS	Cases_V1_AIMS_20180207_20180215.csv	5/15/2019 2:44:49 PM	5/15/2019 2:44:49 PM	Cases	2/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559142	AIMS	Cases_V1_AIMS_20180206_20180215.csv	5/15/2019 2:44:48 PM	5/15/2019 2:44:49 PM	Cases	2/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559141	AIMS	Cases_V1_AIMS_20180107_20180215.csv	5/15/2019 2:44:48 PM	5/15/2019 2:44:48 PM	Cases	1/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559140	AIMS	Cases_V1_AIMS_20180106_20180215.csv	5/15/2019 2:44:47 PM	5/15/2019 2:44:48 PM	Cases	1/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559139	AIMS	StaffTracking_V1_Centricity_20170205_20190515.csv	5/15/2019 2:32:01 PM	5/15/2019 2:32:01 PM	StaffTracking	2/5/2017	5/15/2019	The multi-part identifier "o.Instance_ID" cc
559138	AIMS	StaffTracking_V1_Centricity_20170205_20170310.csv	5/15/2019 2:32:00 PM	5/15/2019 2:32:01 PM	StaffTracking	2/5/2017	3/10/2017	File contains invalid number of columns
559137	AIMS	PeriopAdministrations_V1_Epic_20180409_20180720.csv	5/15/2019 2:32:00 PM	5/15/2019 2:32:00 PM	PeriopAdministrations	4/9/2018	7/20/2018	Cannot insert the value NULL into column
559136	AIMS	Patients_V1_Epic_20170106_20180325.csv	5/15/2019 2:31:59 PM	5/15/2019 2:32:00 PM	Patients	1/6/2017	3/25/2018	File contains invalid number of columns
559135	AIMS	Patients_V1_Epic_20170105_20180325.csv	5/15/2019 2:31:59 PM	5/15/2019 2:31:59 PM	Patients	1/5/2017	3/25/2018	File contains invalid number of columns
559134	AIMS	Cases_V1_AIMS_20180207_20180215.csv	5/15/2019 2:31:59 PM	5/15/2019 2:31:59 PM	Cases	2/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559133	AIMS	Cases_V1_AIMS_20180206_20180215.csv	5/15/2019 2:31:58 PM	5/15/2019 2:31:59 PM	Cases	2/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559132	AIMS	Cases_V1_AIMS_20180107_20180215.csv	5/15/2019 2:31:58 PM	5/15/2019 2:31:58 PM	Cases	1/7/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc
559131	AIMS	Cases_V1_AIMS_20180106_20180215.csv	5/15/2019 2:31:57 PM	5/15/2019 2:31:58 PM	Cases	1/6/2018	2/15/2018	The multi-part identifier "o.Instance_ID" cc

- The same applies here with end times and error messages.
- Start and end times refer to when the consume occurred.
- Target date refers to the date of the data itself (typically date of service).
- Pull date refers to the date that the data was extracted.
- Module refers to the type of data.



# Log Viewer: Data within each module

Module	Data Contained
<b>Cases</b>	Date of Service Operating Room Admission Type Surgical Service Procedure Text Diagnosis Text Organization (used to determine which MPOG_MAS database to use)
<b>Diagnoses</b>	Hospital Discharge Diagnosis and Professional Fee Diagnosis Codes
<b>HospitalMortality</b>	Date of Death (in facility only)
<b>Labs</b>	Formal Labs and Point-of-care Labs
<b>Patients</b>	Patient name MRN Gender Ethnicity Race
<b>Payers</b>	Insurance and other payer data (QCDR participants only)
<b>PeriopAdministrations</b>	Fluids and Medications
<b>PeriopObservations</b>	Preoperative Notes Intraoperative Notes Monitor Data
<b>Procedures</b>	Professional Fee Procedure Codes Hospital Discharge Procedure Codes
<b>StaffTracking</b>	Staff sign ins/outs and role (e.g. attending)

# Log Viewer: Handoff Log

The handoff log shows which data has been processed into the final databases (step 3 of 3).

Log Entry ID	Destination Database	Module	Target Date	Start	End	Error
409178	MPOG_MAS	Labs	1/1/2018	8/27/2019 12:21:50 PM	8/27/2019 12:21:50 PM	(none)
409177	MPOG_MAS	Labs	1/2/2018	8/27/2019 12:21:50 PM	8/27/2019 12:21:50 PM	(none)
409176	MPOG_MAS	Labs	1/1/2018	8/23/2019 10:50:59 AM	8/23/2019 10:50:59 AM	(none)
409175	MPOG_MAS	Patients	1/1/2018	8/23/2019 10:50:59 AM	8/23/2019 10:50:59 AM	(none)
409174	MPOG_MAS	Labs	1/2/2018	8/23/2019 10:50:59 AM	8/23/2019 10:50:59 AM	(none)
409173	MPOG_MAS	Patients	1/2/2018	8/23/2019 10:50:58 AM	8/23/2019 10:50:58 AM	(none)
409172	MPOG_MAS	Patients	1/1/2019	8/23/2019 10:50:58 AM	8/23/2019 10:50:58 AM	(none)
407180	MPOG_MAS	Cases	1/2/2019	3/15/2019 1:31:52 PM	3/15/2019 1:31:52 PM	(none)
407179	MPOG_MAS	Patients	1/1/2019	3/15/2019 1:31:52 PM	3/15/2019 1:31:52 PM	(none)
407178	MPOG_MAS	Cases	1/2/2019	3/15/2019 1:22:05 PM	3/15/2019 1:22:05 PM	(none)
407177	MPOG_MAS	Patients	1/1/2019	3/15/2019 1:22:05 PM	3/15/2019 1:22:05 PM	(none)
407176	MPOG_MAS	Cases	1/2/2019	3/15/2019 1:20:49 PM	3/15/2019 1:20:49 PM	(none)
407175	MPOG_MAS	Patients	1/1/2019	3/15/2019 1:20:49 PM	3/15/2019 1:20:49 PM	(none)
407174	MPOG_MAS	Cases	1/1/2019	3/15/2019 12:42:54 PM	3/15/2019 12:42:54 PM	(none)
407173	MPOG_MAS	Patients	1/1/2019	3/15/2019 12:42:54 PM	3/15/2019 12:42:54 PM	String or binary data would be truncated.
407172	MPOG_MAS	Cases	1/2/2019	3/15/2019 12:42:53 PM	3/15/2019 12:42:54 PM	(none)
406475	MPOG_MAS	PeriopObservations	7/23/2018	2/18/2019 8:55:48 AM	(none)	(none)
406474	MPOG_MAS	PeriopObservations	7/23/2018	2/18/2019 8:54:58 AM	2/18/2019 8:55:48 AM	(none)
406473	MPOG_MAS	PeriopObservations	7/23/2018	2/18/2019 8:54:28 AM	2/18/2019 8:54:58 AM	(none)
406472	MPOG_MAS	PeriopAdministrations	7/23/2018	2/18/2019 8:54:23 AM	2/18/2019 8:54:28 AM	(none)
406471	MPOG_MAS	PeriopAdministrations	7/23/2018	2/18/2019 8:54:18 AM	2/18/2019 8:54:23 AM	(none)
406470	MPOG_MAS	PeriopAdministrations	7/23/2018	2/18/2019 8:54:12 AM	2/18/2019 8:54:18 AM	(none)
406469	MPOG_MAS	HospitalMortality	7/23/2018	2/18/2019 8:54:09 AM	2/18/2019 8:54:12 AM	(none)
406468	MPOG_MAS	HospitalMortality	7/23/2018	2/18/2019 8:54:07 AM	2/18/2019 8:54:09 AM	(none)
406467	MPOG_MAS	HospitalMortality	7/23/2018	2/18/2019 8:54:04 AM	2/18/2019 8:54:07 AM	(none)
406466	MPOG_MAS	Diagnoses	7/23/2018	2/18/2019 8:53:55 AM	2/18/2019 8:54:04 AM	(none)
406465	MPOG_MAS	Diagnoses	7/23/2018	2/18/2019 8:53:47 AM	2/18/2019 8:53:55 AM	(none)
406464	MPOG_MAS	Diagnoses	7/23/2018	2/18/2019 8:53:39 AM	2/18/2019 8:53:47 AM	(none)
406463	MPOG_MAS	Cases	7/23/2018	2/18/2019 8:53:27 AM	2/18/2019 8:53:39 AM	(none)
406462	MPOG_MAS	Cases	7/23/2018	2/18/2019 8:53:23 AM	2/18/2019 8:53:27 AM	(none)
406461	MPOG_MAS	Cases	7/23/2018	2/18/2019 8:53:16 AM	2/18/2019 8:53:23 AM	(none)
406460	MPOG_MAS	Patients	7/23/2018	2/18/2019 8:53:11 AM	2/18/2019 8:53:16 AM	(none)
406459	MPOG_MAS	Patients	7/23/2018	2/18/2019 8:53:06 AM	2/18/2019 8:53:11 AM	(none)
406458	MPOG_MAS	Patients	7/23/2018	2/18/2019 8:53:02 AM	2/18/2019 8:53:06 AM	(none)

End times and error messages interpretations apply here as well.

Destination database refers to final MPOG\_MAS database the data was inserted into (if handoff was successful).

Target date, start and end date/times, and module carry the same meanings.

If there is an error message or there is no end date listed, the data was NOT brought into the final database.

# Log Viewer: Handoff Queue

Handoff queue displays data that will be handed off, but hasn't been

Import Manager Assistant

Log Viewer Module: All Target Date Range: Select a date 15 to Select a date 15 Had Error  Yes  No Execution Date Range: Select a date 15 to Select a date 15

Overview: Import Log Consume Log Handoff Log **Handoff Queue**

Queue Entry ID	Destination Database	Module	Target Date	Date Queued	Priority
591004	MPOG_MAS	Cases	9/14/2019	9/18/2019 12:35:28 PM	10
591008	MPOG_MAS	Diagnoses	9/14/2019	9/18/2019 12:35:28 PM	10
591012	MPOG_MAS	HospitalMortality	9/14/2019	9/18/2019 12:35:28 PM	10
591016	MPOG_MAS	Labs	9/14/2019	9/18/2019 12:35:28 PM	10
591020	MPOG_MAS	Patients	9/14/2019	9/18/2019 12:35:28 PM	10
591024	MPOG_MAS	Payers	9/14/2019	9/18/2019 12:35:28 PM	10
591028	MPOG_MAS	PeriopAdministrations	9/14/2019	9/18/2019 12:35:28 PM	10
591032	MPOG_MAS	PeriopObservations	9/14/2019	9/18/2019 12:35:28 PM	10
591036	MPOG_MAS	Procedures	9/14/2019	9/18/2019 12:35:28 PM	10
591040	MPOG_MAS	StaffTracking	9/14/2019	9/18/2019 12:35:28 PM	10
591041	MPOG_MAS	StaffTracking	8/19/2019	9/18/2019 12:35:28 PM	20
591037	MPOG_MAS	Procedures	8/19/2019	9/18/2019 12:35:28 PM	20
591033	MPOG_MAS	PeriopObservations	8/19/2019	9/18/2019 12:35:28 PM	20
591029	MPOG_MAS	PeriopAdministrations	8/19/2019	9/18/2019 12:35:28 PM	20
591025	MPOG_MAS	Payers	8/19/2019	9/18/2019 12:35:28 PM	20
591021	MPOG_MAS	Patients	8/19/2019	9/18/2019 12:35:28 PM	20
591017	MPOG_MAS	Labs	8/19/2019	9/18/2019 12:35:28 PM	20
591013	MPOG_MAS	HospitalMortality	8/19/2019	9/18/2019 12:35:28 PM	20
591009	MPOG_MAS	Diagnoses	8/19/2019	9/18/2019 12:35:28 PM	20
591005	MPOG_MAS	Cases	8/19/2019	9/18/2019 12:35:28 PM	20
591006	MPOG_MAS	Cases	6/20/2019	9/18/2019 12:35:28 PM	20
591010	MPOG_MAS	Diagnoses	6/20/2019	9/18/2019 12:35:28 PM	20
591014	MPOG_MAS	HospitalMortality	6/20/2019	9/18/2019 12:35:28 PM	20
591018	MPOG_MAS	Labs	6/20/2019	9/18/2019 12:35:28 PM	20
591022	MPOG_MAS	Patients	6/20/2019	9/18/2019 12:35:28 PM	20
591026	MPOG_MAS	Payers	6/20/2019	9/18/2019 12:35:28 PM	20
591030	MPOG_MAS	PeriopAdministrations	6/20/2019	9/18/2019 12:35:28 PM	20
591034	MPOG_MAS	PeriopObservations	6/20/2019	9/18/2019 12:35:28 PM	20
591038	MPOG_MAS	Procedures	6/20/2019	9/18/2019 12:35:28 PM	20
591042	MPOG_MAS	StaffTracking	6/20/2019	9/18/2019 12:35:28 PM	20
591043	MPOG_MAS	StaffTracking	9/18/2018	9/18/2019 12:35:28 PM	20
591039	MPOG_MAS	Procedures	9/18/2018	9/18/2019 12:35:28 PM	20
591035	MPOG_MAS	PeriopObservations	9/18/2018	9/18/2019 12:35:28 PM	20
591031	MPOG_MAS	PeriopAdministrations	9/18/2018	9/18/2019 12:35:28 PM	20
591027	MPOG_MAS	Payers	9/18/2018	9/18/2019 12:35:28 PM	20

Export as a spreadsheet

- Data will be handed off by lowest priority number, then by most recent target date.
- Priority meanings:
  - **10**: Brand new data
  - **20**: Re-extracted data
  - **30**: Remapped data
  - **50**: Missed cases
  - **60**: Missed labs
  - Other priority numbers: Custom
- Destination database, module, and target date have same meanings as other tabs.

# Log Viewer: Filters

All logs and the queue can be filtered (filters affect all tabs).

ID	Module	File Name	Date/Time
11680	AIMS	PeriopObservations_V1_Epic_20000102_20190125.csv	1/25/2019 7:05:27 AM
11678	AIMS	Cases_V1_Epic_20000103_20190125.csv	1/25/2019 7:05:04 AM
11679	AIMS	PeriopObservationDetails_V1_Epic_20000105-16017262-OBSERVATIONS_20190123.csv	1/25/2019 7:05:04 AM
11677	AIMS	Labs_V1_Epic_20000102_20190125.csv	1/25/2019 7:05:01 AM
11675	AIMS	Patients_V1_Epic_20000102_20190124.csv	1/24/2019 7:05:03 AM
11676	AIMS	StaffTracking_V1_Epic_20000101_20190124.csv	1/24/2019 7:05:03 AM
11674	AIMS	Labs_V1_Epic_20000101_20190124.csv	1/24/2019 7:05:02 AM
11673	AIMS	PeriopObservations_V1_Epic_20000102_20190124.csv	1/24/2019 7:05:01 AM
11672	AIMS	Cases_V1_Epic_20000102_20190123.csv	1/23/2019 7:05:11 AM

**Module:** refers to the type of data.

**Target date range:** filters the data based on date of service.

**Error filtering:** allows the user to look only at log records with or without errors. **Please keep in mind that an error that has occurred may have since been resolved.**

**Execution date range:** filters the data based on date of log occurrence.



# Log Viewer: Export as spreadsheet

Data from the log viewer tab can be exported as a spreadsheet.

The screenshot shows the 'Log Viewer' tab in the 'Import Manager Assistant' application. The interface includes a filter bar at the top with options for 'Module' (set to 'All'), 'Target Date Range', 'Had Error' (checked for 'Yes' and 'No'), and 'Execution Date Range'. Below the filter bar is a navigation pane with tabs for 'Import Log', 'Consume Log', 'Handoff Log', and 'Handoff Queue'. The main area displays a table of log entries with the following columns: Log Entry ID, Instance, File Name, Start, End, Error, File Size (Bytes), and Is MultiDate. The table contains 30 rows of data, with the last row (Log Entry ID 5313) highlighted in red. At the bottom of the window, there is a button labeled 'Export as spreadsheet'.

Log Entry ID	Instance	File Name	Start	End	Error	File Size (Bytes)	Is MultiDate
5347	MPOG_MAS	StaffTracking_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:23 AM	6/28/2019 8:12:23 AM	(none)	15,931	False
5346	MPOG_MAS	StaffTracking_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:23 AM	6/28/2019 8:12:23 AM	(none)	148,295	False
5345	MPOG_MAS	Procedures_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:22 AM	6/28/2019 8:12:23 AM	(none)	2,133,918	False
5344	MPOG_MAS	Procedures_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:22 AM	6/28/2019 8:12:22 AM	(none)	20,408,486	False
5343	MPOG_MAS	PeriopObservations_V1_Centricity_20190330_20190628.csv	6/28/2019 8:12:20 AM	6/28/2019 8:12:22 AM	(none)	15,468,414	False
5342	MPOG_MAS	Diagnoses_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:18 AM	6/28/2019 8:12:20 AM	(none)	13,184,377	False
5341	MPOG_MAS	CaseCrosswalk_V1_Centricity_20180628_20190628.csv	6/28/2019 8:12:18 AM	6/28/2019 8:12:18 AM	(none)	23,574	True
5340	MPOG_MAS	StaffTracking_V1_Centricity_20190624_20190628.csv	6/28/2019 7:43:02 AM	6/28/2019 7:43:02 AM	(none)	164,651	False
5339	MPOG_MAS	StaffTracking_V1_Centricity_20190529_20190628.csv	6/28/2019 7:43:02 AM	6/28/2019 7:43:02 AM	(none)	167,896	False
5338	MPOG_MAS	Procedures_V1_Centricity_20190529_20190628.csv	6/28/2019 7:43:01 AM	6/28/2019 7:43:02 AM	(none)	6,229,000	False
5337	MPOG_MAS	PeriopObservations_V1_Centricity_20190624_20190628.csv	6/28/2019 7:42:48 AM	6/28/2019 7:43:01 AM	(none)	152,546,702	False
5336	MPOG_MAS	PeriopObservations_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:48 AM	(none)	156,707,580	False
5335	MPOG_MAS	PeriopObservations_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	0	False
5334	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	1,254,687	False
5333	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	145,258	False
5332	MPOG_MAS	PeriopObservationDetails_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	1,131,646	False
5331	MPOG_MAS	PeriopAdministrations_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	922,601	False
5330	MPOG_MAS	PeriopAdministrations_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:36 AM	6/28/2019 7:42:36 AM	(none)	97,001	False
5329	MPOG_MAS	PeriopAdministrations_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	791,839	False
5328	MPOG_MAS	Patients_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	75,500	False
5327	MPOG_MAS	Patients_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	6,470	False
5326	MPOG_MAS	Patients_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:35 AM	6/28/2019 7:42:35 AM	(none)	64,236	False
5325	MPOG_MAS	Labs_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:24 AM	6/28/2019 7:42:35 AM	(none)	194,965,970	False
5324	MPOG_MAS	Labs_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:23 AM	6/28/2019 7:42:24 AM	(none)	10,760,891	False
5322	MPOG_MAS	HospitalMortality_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	320	False
5323	MPOG_MAS	Labs_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:23 AM	(none)	164,897,933	False
5321	MPOG_MAS	HospitalMortality_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	520	False
5320	MPOG_MAS	HospitalMortality_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:19 AM	6/28/2019 7:42:19 AM	(none)	440	False
5319	MPOG_MAS	Diagnoses_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:19 AM	(none)	4,931,586	False
5318	MPOG_MAS	Diagnoses_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	1,776,713	False
5317	MPOG_MAS	Cases_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	106,249	False
5316	MPOG_MAS	Cases_V1_Centricity_20190330_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	7,955	False
5315	MPOG_MAS	Cases_V1_Centricity_20180628_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	89,575	False
5314	MPOG_MAS	CaseCrosswalk_V1_Centricity_20190624_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	29,332	True
5313	MPOG_MAS	CaseCrosswalk_V1_Centricity_20190529_20190628.csv	6/28/2019 7:42:18 AM	6/28/2019 7:42:18 AM	(none)	28,802	True

- Each of the logs and the queue will be in the spreadsheet as a separate tab.
- Exported spreadsheet will have the same filters applied as the application.
- Only the 10,000 most recent rows are shown in the application, but the spreadsheet doesn't have a limit.

# Second Tab: Overview

The overview tab provides a color-coded grid that summarizes the log information.

Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19			
Cases	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey			
Diagnoses	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
HospitalMortality	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
Labs	Grey	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Green	Red	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
Patients	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
Payers	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
PeriopAdministrations	Grey	Yellow	Yellow	Green	Green	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
PeriopObservationDetails	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
PeriopObservations	Grey	Yellow	Yellow	Red	Grey	Green	Green	Red	Yellow	Grey	Yellow	Red	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	
Procedures	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Red	Red	Green	Green	Green	Green	Green	Green	Green	Green	Red	Red	Red	Yellow	Red	Grey	Grey	
StaffTracking	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	

The columns represent months of data, while rows represent modules (types of data). Each box shows the overall status of that type of data for that month.

The box colors have the following meanings :

- **Green** - indicates data that has successfully completed all Import Manager steps.
- **Yellow** - indicates data that has successfully completed some steps, but still has further steps to complete.
- **Red** - indicates one or more errors.
- **Grey** - indicates missing data.

# Overview Continued...

Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19
Cases	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Grey	Grey
Diagnoses	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey
HospitalMortality	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	Grey
Labs	Grey	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Yellow	Red	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	
Patients	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	
Payers	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
PeriopAdministrations	Grey	Yellow	Yellow	Green	Green	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	
PeriopObservationDetails	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	
PeriopObservations	Grey	Yellow	Yellow	Red	Grey	Green	Green	Red	Yellow	Grey	Yellow	Red	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	
Procedures	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Red	Red	Green	Green	Green	Green	Green	Green	Red	Red	Red	Yellow	Red	Grey	Grey	
StaffTracking	Grey	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Grey	Grey	

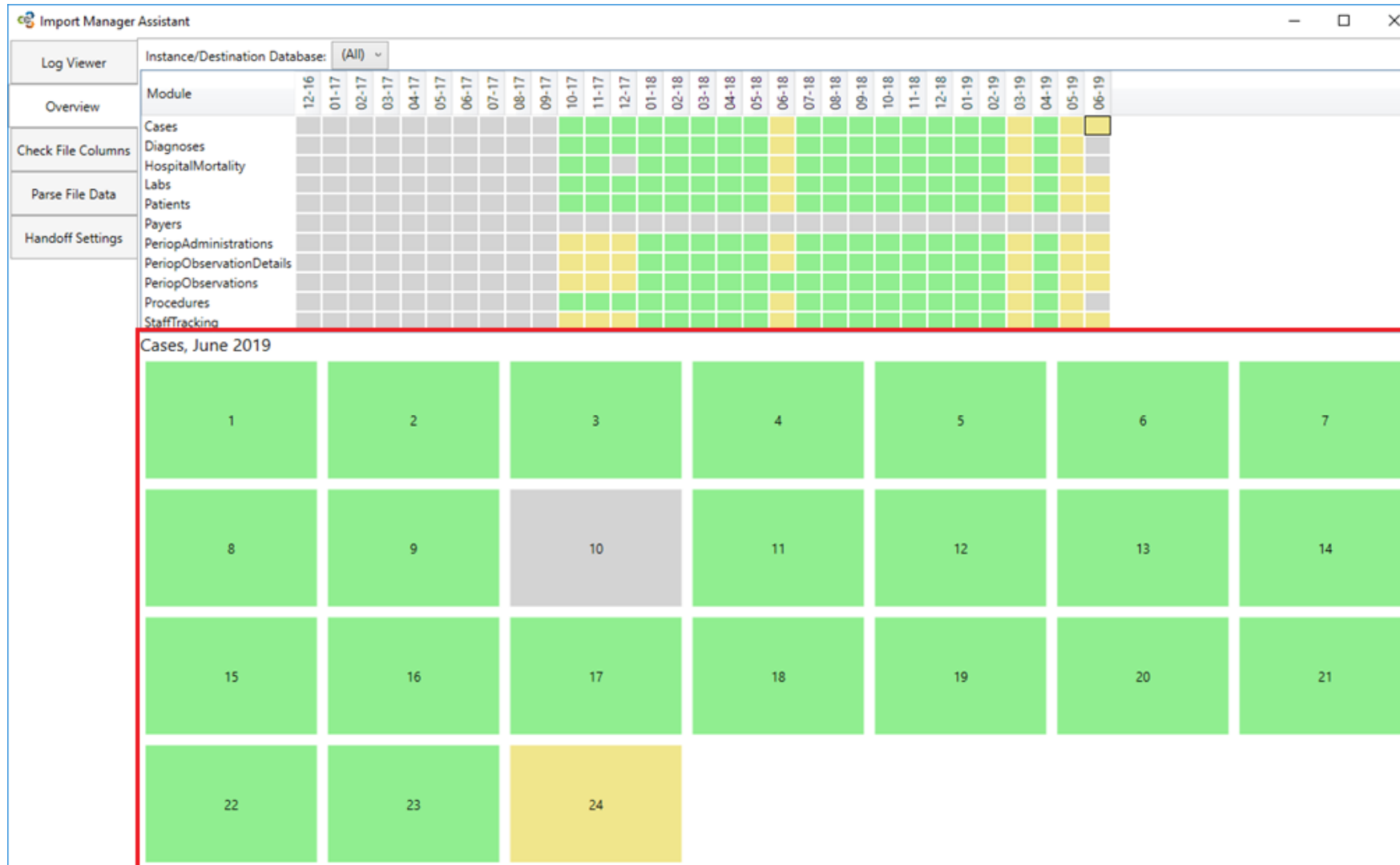
The color for a month will indicate the status in the following order:

1. If there are any errors for any day that month, display the month as red.
2. If there are not any errors but data is still being processed for one or more days, display yellow.
3. If there are not any errors, no data is being processed, but there are one or more days without any data, display grey.

If every day of the month has successfully completed processing, display green.

# Overview Continued...

Any month/module box can be clicked to drill down to the status of each day.





# Overview Continued...

Click on any day to drill down to the source system. The source system indicates where the data was extracted from (electronic health record, billing software, etc.).

More details about errors are shown here. Refer to the status column to see where the data currently is in the process.

The screenshot shows the 'Import Manager Assistant' window. It features a calendar grid for September 2018, with columns for each day from 12-16 to 11-19. The grid is color-coded: green for 'Complete', yellow for 'In Progress', and red for 'Error'. A detailed view for 9/1/2018 is shown at the bottom, listing two import attempts for 'MPOG\_MAS' data from 'MPOG\_MAS' source systems.

Instance	Destination Database	Source System	Status	Last Import	Last Consume	Last Handoff	Queued for Handoff	Import Error	Consume Error	Handoff Error
MPOG_MAS	MPOG_MAS	Centricity	Complete	3/25/2019 5:12:18 PM	3/26/2019 4:44:39 AM	3/26/2019 6:04:07 AM	Not queued	(none)	(none)	(none)
MPOG_MAS	MPOG_MAS	EpicClarity	Consume Error	9/1/2019 8:12:22 AM	9/18/2019 2:45:13 AM	3/26/2019 6:04:07 AM	Not queued	(none)	File contains invalid number of columns	(none)

# Overview Example #1: Red status

Import Manager Assistant

Instance/Destination Database: (All)

Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19				
Cases																																								
Diagnoses																																								
HospitalMortality																																								
Labs																																								
Patients																																								
Payers																																								
PeriopAdministrations																																								
PeriopObservationDetails																																								
PeriopObservations																																								
Procedures																																								
StaffTracking																																								

Procedures, September 2018

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Details for 9/1/2018

Instance	Destination Database	Source System	Status	Last Import	Last Consume	Last Handoff	Queued for Handoff	Import Error	Consume Error	Handoff Error
MPOG_MAS	MPOG_MAS	Centricity	Complete	3/25/2019 5:12:18 PM	3/26/2019 4:44:39 AM	3/26/2019 6:04:07 AM	Not queued	(none)	(none)	(none)
MPOG_MAS	MPOG_MAS	EpicClarity	Consume Error	9/1/2019 8:12:22 AM	9/18/2019 2:45:13 AM	3/26/2019 6:04:07 AM	Not queued	(none)	File contains invalid number of columns	(none)

Consume error (wrong number of columns in file) causes day and month to show red.

# Overview Example #2: Yellow status

Import Manager Assistant

Instance/Destination Database: (All)

Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19		
Cases																																						
Diagnoses																																						
HospitalMortality																																						
Labs																																						
Patients																																						
Payers																																						
PeriopAdministrations																																						
PeriopObservationDetails																																						
PeriopObservations																																						
Procedures																																						
StaffTracking																																						

PeriopObservations, September 2018

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Details for 9/18/2018

Instance	Destination Database	Source System	Status	Last Import	Last Consume	Last Handoff	Queued for Handoff	Import Error	Consume Error	Handoff Error
MPOG_MAS	MPOG_MAS	Centricity	Awaiting Consume	9/18/2019 7:42:34 AM	3/20/2019 5:02:26 PM	7/13/2019 11:32:13 AM	Not queued	(none)	(none)	(none)
MPOG_MAS	MPOG_MAS	EpicClarity	Awaiting Consume	9/18/2019 8:12:35 AM	5/23/2019 4:30:18 AM	7/13/2019 11:32:13 AM	Not queued	(none)	(none)	(none)

Not yet consumed data showing as yellow.



# Overview Example #3: Grey status

The screenshot shows the 'Import Manager Assistant' interface. At the top, there's a 'Log Viewer' and 'Instance/Destination Database: (All)'. Below is a navigation menu with 'Overview', 'Check File Columns', 'Parse File Data', and 'Handoff Settings'. The main area displays a grid of data for various modules from 12-16 to 11-19. The 'PeriopObservations' module shows data for September 2017. A detailed view for 9/26/2017 shows 'No Data Imported'.

Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19		
Cases																																						
Diagnoses																																						
HospitalMortality																																						
Labs																																						
Patients																																						
Payers																																						
PeriopAdministrations																																						
PeriopObservationDetails																																						
PeriopObservations																																						
Procedures																																						
StaffTracking																																						

PeriopObservations, September 2017

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Details for 9/26/2017  
No Data Imported

Missing data (days 1, 8, and 26) show as grey.

# Overview Example #4: Green status

Import Manager Assistant		Instance/Destination Database: (All)																																					
Log Viewer	Module	12-16	01-17	02-17	03-17	04-17	05-17	06-17	07-17	08-17	09-17	10-17	11-17	12-17	01-18	02-18	03-18	04-18	05-18	06-18	07-18	08-18	09-18	10-18	11-18	12-18	01-19	02-19	03-19	04-19	05-19	06-19	07-19	08-19	09-19	10-19	11-19		
Overview	Cases																																						
Check File Columns	Diagnoses																																						
	HospitalMortality																																						
Parse File Data	Labs																																						
	Patients																																						
Handoff Settings	Payers																																						
	PeriopAdministrations																																						
	PeriopObservationDetails																																						
	PeriopObservations																																						
	Procedures																																						
	StaffTracking																																						

PeriopObservations, April 2019						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

All data available is now in the database for this module/month!



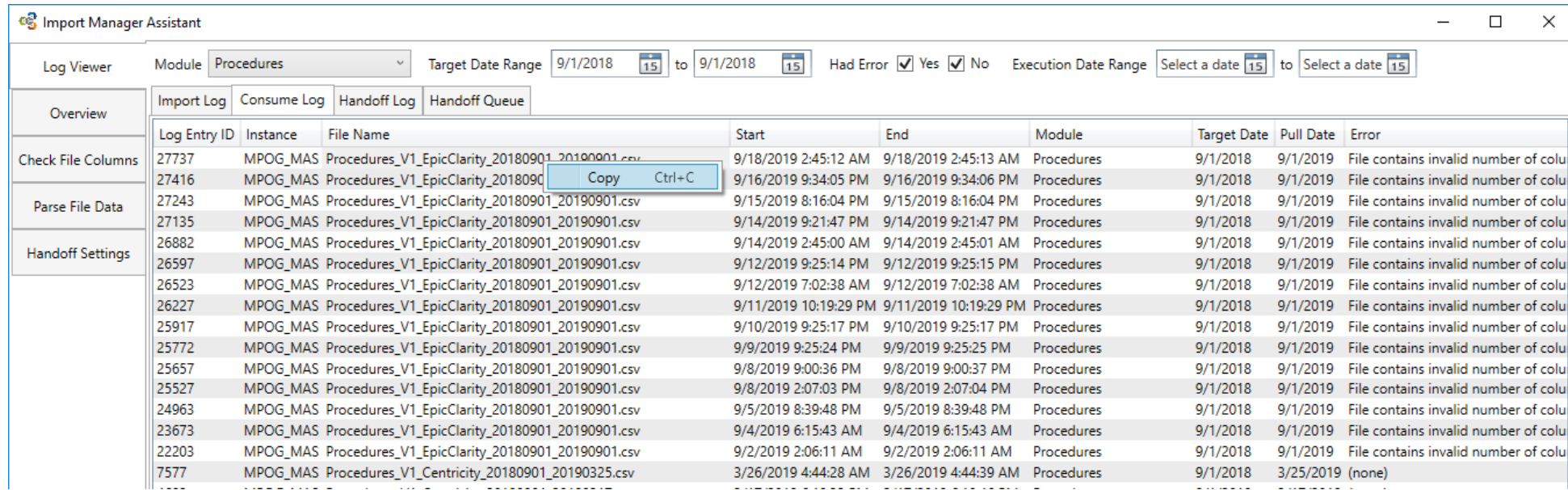
# Third Tab: Check File Columns

Import Manager Assistant				Check Columns		
Log Viewer	Instance: MPOG_MAS (ID: 0)	File Name: Procedures_V1_EpicClarity_20180901_20190901.csv				
Overview	Line	Actual Columns	Expected Columns			
Check File Columns	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:32:00,2018-09-30 00:00:00,,,N18.6,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 12:25:00,2018-09-30 00:00:00,,,N18.6,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:50:00,2018-09-01 23:59:00,,,F31.9,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 12:39:00,2018-09-30 00:00:00,,,Z94.0,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 13:53:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:43:00,2018-09-01 09:18:00,,,M79.1,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:43:00,2018-09-01 09:18:00,,,E78.2,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:43:00,2018-09-01 09:18:00,,,G47.419,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:43:00,2018-09-01 09:18:00,,,Z12.31,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 08:43:00,2018-09-01 09:18:00,,,Z71.6,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 13:47:00,2018-09-01 23:59:00,,,E78.2,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 13:47:00,2018-09-01 23:59:00,,,R53.83,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 12:50:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 03:39:00,2018-09-01 10:16:00,,,J39.2,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 03:39:00,2018-09-01 10:16:00,,,Z90.89,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 03:39:00,2018-09-01 10:16:00,,,K91.840,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 03:39:00,2018-09-01 10:16:00,,,J95.830,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	1,Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 07:00:00,2018-09-30 00:00:00,,,R97.20,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 07:00:00,2018-09-30 00:00:00,,,C61,ICD-10-CM,,1,	21	17		
	MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 10:25:00,2018-09-01 23:59:00,,,C81.18,ICD-10-CM,,1,	21	17		
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 11:58:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 10:44:00,2018-09-30 00:00:00,,,C71.9,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 14:33:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 11:23:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 09:06:00,2018-09-01 23:59:00,,,H65.112,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 14:17:00,2018-09-30 00:00:00,,,Z59.8,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 17:13:00,2018-09-01 22:05:00,,,Q21.2,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 17:13:00,2018-09-01 22:05:00,,,R68.13,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 11:11:00,2018-09-30 00:00:00,,,Z94.84,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	1,Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O34.219,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	1,Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O24.425,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,F32.9,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O62.0,ICD-10-CM,,0,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O70.1,ICD-10-CM,,0,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O99.344,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,O76,ICD-10-CM,,0,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,Z37.0,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 20:08:00,2018-09-03 18:19:00,,,Z3A.39,ICD-10-CM,,1,	21	17			
MICPR.HSPAacctDXList	Hospital Discharge,2018-09-01 00:00:00,,2018-09-01 09:54:00,2018-09-01 23:59:00,,,D64.9,ICD-10-CM,,1,	21	17			

Use this tab when there is an error indicating a file has the wrong number of columns. The rows shown here have either too many or too few columns.

Extract writers will find this very useful.

# Check File Columns: How to get a file name



The screenshot shows the 'Import Manager Assistant' window with the 'Log Viewer' tab selected. The window displays a table of log entries. The 'File Name' column contains various CSV files. A right-click context menu is open over the file name 'Procedures\_V1\_EpicClarity\_20180901\_20190901.csv', with the 'Copy' option highlighted. The table has the following columns: Log Entry ID, Instance, File Name, Start, End, Module, Target Date, Pull Date, and Error.

Log Entry ID	Instance	File Name	Start	End	Module	Target Date	Pull Date	Error
27737	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/18/2019 2:45:12 AM	9/18/2019 2:45:13 AM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
27416	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/16/2019 9:34:05 PM	9/16/2019 9:34:06 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
27243	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/15/2019 8:16:04 PM	9/15/2019 8:16:04 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
27135	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/14/2019 9:21:47 PM	9/14/2019 9:21:47 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
26882	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/14/2019 2:45:00 AM	9/14/2019 2:45:01 AM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
26597	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/12/2019 9:25:14 PM	9/12/2019 9:25:15 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
26523	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/12/2019 7:02:38 AM	9/12/2019 7:02:38 AM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
26227	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/11/2019 10:19:29 PM	9/11/2019 10:19:29 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
25917	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/10/2019 9:25:17 PM	9/10/2019 9:25:17 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
25772	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/9/2019 9:25:24 PM	9/9/2019 9:25:25 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
25657	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/8/2019 9:00:36 PM	9/8/2019 9:00:37 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
25527	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/8/2019 2:07:03 PM	9/8/2019 2:07:04 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
24963	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/5/2019 8:39:48 PM	9/5/2019 8:39:48 PM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
23673	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/4/2019 6:15:43 AM	9/4/2019 6:15:43 AM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
22203	MPOG_MAS	Procedures_V1_EpicClarity_20180901_20190901.csv	9/2/2019 2:06:11 AM	9/2/2019 2:06:11 AM	Procedures	9/1/2018	9/1/2019	File contains invalid number of colu
7577	MPOG_MAS	Procedures_V1_Centricity_20180901_20190325.csv	3/26/2019 4:44:28 AM	3/26/2019 4:44:39 AM	Procedures	9/1/2018	3/25/2019	(none)

File names can be obtained by copying and pasting them from the Log Viewer tab. To do so, right click on any file name and click “Copy”.



# Fourth Tab: Parse File Data

Import Manager Assistant

Instance: MPOG\_MAS (ID: 0) File Name: PeriopAdministrations\_V1\_EpicClarity\_20180901\_20190522.csv

Parse File Data

AdminID	CaseID	Phaseof_Care_ID	Phaseof_Care_Name	AdminType_ID	AdminType_Name	UnitID	UnitName	RouteID
Preop		Preop	Preop	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
Preop		Preop	Preop	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	3037	fentaNYL (PF) 50 mcg/mL injection solution	8	mcg	11
PACU		PACU	PACU	3037	fentaNYL (PF) 50 mcg/mL injection solution	8	mcg	11
PACU		PACU	PACU	30400500100	UM IP R ICP DRAIN OUTPUT - CSF Output	4	Unknown	2
PACU		PACU	PACU	30400500100	UM IP R ICP DRAIN OUTPUT - CSF Output	4	Unknown	2
PACU		PACU	PACU	30400500100	UM IP R ICP DRAIN OUTPUT - CSF Output	4	Unknown	2
PACU		PACU	PACU	40820675	CEFAZOLIN INJECTION SYRINGE (PEDS)	3	mg	11
PACU		PACU	PACU	40824396	acetaminophen 1,000 mg/100 mL (10 mg/mL) intravenous solution	3	mg	11
PACU		PACU	PACU	9815	dextrose 5 % and 0.9 % sodium chloride intravenous solution	41	mL/hr	11
PACU		PACU	PACU	9815	dextrose 5 % and 0.9 % sodium chloride intravenous solution	41	mL/hr	11
PACU		PACU	PACU	9815	dextrose 5 % and 0.9 % sodium chloride intravenous solution	41	mL/hr	11
PACU		PACU	PACU	9815	dextrose 5 % and 0.9 % sodium chloride intravenous solution	41	mL/hr	11
PACU		PACU	PACU	102	acetaminophen 500 mg tablet	3	mg	15
Preop		Preop	Preop	10284	insulin NPH isophane U-100 human 100 unit/mL subcutaneous suspension	5	units	18
Preop		Preop	Preop	10491	magnesium oxide 400 mg (241.3 mg magnesium) tablet	3	mg	15
Preop		Preop	Preop	11265	raNITidine 150 mg tablet	3	mg	15
Preop		Preop	Preop	12934	tacrolimus 5 mg capsule	3	mg	15
Preop		Preop	Preop	1300	calcium carbonate 500 mg calcium (1,250 mg) tablet	3	mg	15
PACU		PACU	PACU	1300	calcium carbonate 500 mg calcium (1,250 mg) tablet	3	mg	15
Preop		Preop	Preop	16021439	UM R MAINTENANCE IV VOLUME - Volume (mL)	1	mL	11
PACU		PACU	PACU	2566	docusate sodium 100 mg capsule	3	mg	15
Preop		Preop	Preop	27694	omeprazole 20 mg capsule, delayed release	3	mg	15
Preop		Preop	Preop	37637	metoprolol tartrate 25 mg tablet	3	mg	15
PACU		PACU	PACU	40821280	insulin lispro 100 unit/mL Sub-Q	5	units	18
Preop		Preop	Preop	5751	nystatin 100,000 unit/mL oral suspension	1	mL	15
PACU		PACU	PACU	5751	nystatin 100,000 unit/mL oral suspension	1	mL	15
Preop		Preop	Preop	6496	predniSONE 20 mg tablet	3	mg	15
PACU		PACU	PACU	679	aspirin 81 mg chewable tablet	3	mg	15
Preop		Preop	Preop	800001	ZZ IMS TEMPLATE	3	mg	15
Preop		Preop	Preop	82639	cholecalciferol (vitamin D3) 1,000 unit tablet	5	units	15
Preop		Preop	Preop	8971	acyclovir 400 mg tablet	3	mg	15
Preop		Preop	Preop	9506	cetirizine 10 mg tablet	3	mg	15
Preop		Preop	Preop	9814	dextrose 5 % and 0.45 % sodium chloride intravenous solution	41	mL/hr	11

Use this tab to see the underlying data in any imported file. This may be useful to see if a data element went missing during the import manager process or if it is missing from the extract.

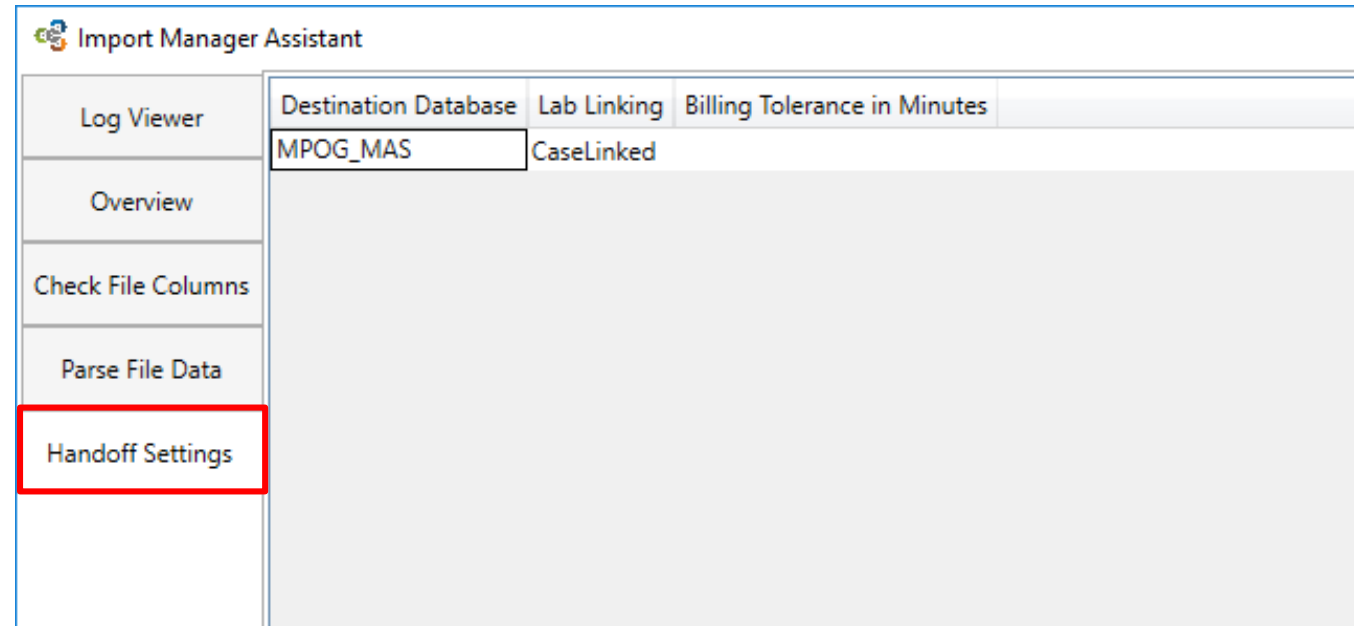


# Fifth Tab: Handoff Settings

The fifth tab contains the settings for handoff.

- Lab linking refers to which labs are included in a given target date.
  - CaseLinked should be used if all labs for the patients that had a case that day were pulled.
  - DateLinked should be used if all labs taken that day are included in the file.
- Billing tolerance in minutes adjusts how close timing of a billing code and a case start time can be to be considered a match.

Do **NOT** change these values without consulting MPOG staff.



# Submitting BRI

## Historical Load

Case Selection

There is 1 case that needs to be PHI scrubbed.

- Cases awaiting upload 0
- Cases awaiting initial upload 0
- Cases awaiting re-upload 0
- All cases (including those already uploaded) 0

Specify Date Range

From 1/1/2019 15 To 1/31/2019 15

Blinded Record Index

Note: You must be running a BRI service in order to use this.

- Create/update the blinded record index for this patient
- Update BRI only (Do not upload case data)

Table Selection (applicable to cases being re-uploaded only)

Select All

<input type="checkbox"/> Billing	<input type="checkbox"/> Lab Values	<input type="checkbox"/> Physiologic
<input type="checkbox"/> Case Info	<input type="checkbox"/> Medications	<input type="checkbox"/> Preop
<input type="checkbox"/> Input Outputs	<input type="checkbox"/> Mortality	<input type="checkbox"/> Registry Data
<input type="checkbox"/> Intraop Notes	<input type="checkbox"/> Outcomes	<input type="checkbox"/> Sites
<input type="checkbox"/> Intraop Staff	<input type="checkbox"/> Patients	

Use Stored Modularity Only

Start Transfer

## Monthly Load

Case Selection

There is 1 case that needs to be PHI scrubbed.

- Cases awaiting upload 0
- Cases awaiting initial upload 0
- Cases awaiting re-upload 0
- All cases (including those already uploaded) 0

Specify Date Range

From 8/1/2019 15 To 8/31/2019 15

Blinded Record Index

Note: You must be running a BRI service in order to use this.

- Create/update the blinded record index for this patient
- Update BRI only (Do not upload case data)

Table Selection (applicable to cases being re-uploaded only)

Select All

<input type="checkbox"/> Billing	<input type="checkbox"/> Lab Values	<input type="checkbox"/> Physiologic
<input type="checkbox"/> Case Info	<input type="checkbox"/> Medications	<input type="checkbox"/> Preop
<input type="checkbox"/> Input Outputs	<input type="checkbox"/> Mortality	<input type="checkbox"/> Registry Data
<input type="checkbox"/> Intraop Notes	<input type="checkbox"/> Outcomes	<input type="checkbox"/> Sites
<input type="checkbox"/> Intraop Staff	<input type="checkbox"/> Patients	

Use Stored Modularity Only

Start Transfer

# PONV 03 – Outcome Measure

- **Success**

- Patient does not report nausea, have an emesis event or receive an antiemetic during the immediate postoperative period.

- **Measure Bounds**

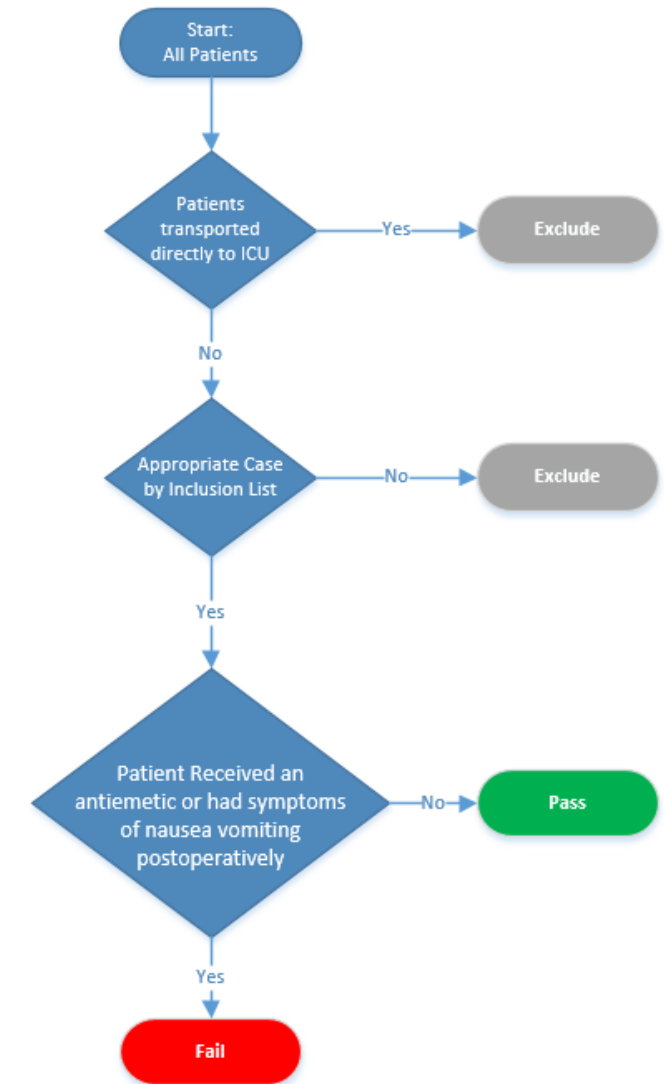
- **Measure Start:**

- Recovery Room In Date/Time. If not available then,
- Phase I Recovery Room In Date/Time. If not available then,
- Phase II Recovery Room In Date/Time. If not available then,
- Patient out of Room. If not available then,
- Data Capture End. If not available then,
- Anesthesia End.

- **Measure End:** Anesthesia End + 6 hours

- **Responsible provider:**

- All providers for a given case who are signed in  $\geq 40$  minutes. If a given case is  $\leq 60$  minutes, all providers are responsible.



# PONV 03 – Outcomes Measure

- **Inclusion**

- All patients regardless of age
- C-Sections (CPT: 01961, 01968)

- **Exclusion**

- Patients transferred directly to the ICU
- Labor Epidurals
- Organ Harvest
- Liver Transplant Surgery
- Obstetric Non-Operative Procedure Rooms (Rooms tagged as OB-GYN – Labor and Delivery)
- Obstetric Non-Operative Procedures with procedure text: “Labor Epidural”

PONV Outcomes MPOG Concept IDs:	
50227	GI – Symptoms
50636	Misc - Patient Vomiting
50219	Emesis Occurrence
10503	Emesis
90010	PONV Assessment
90371	Postoperative Nausea and/or Vomiting
90009	PONV Interventions

# PONV Outcomes – Collation Mapping

## PONVReportedNotes

Institution:  Distinct Values Remaining: 0 / 1,009

Mapping Filter:  Rows Remaining: 0 / 79,369

Time Filter:  Percent Mapped: 100.0 %

Value Filter:  [\(What's This?\)](#)

MPOG Concept	Source Value	Count	Mapped As
GI - Symptoms	WDL	47,604	No
GI - Symptoms	WDL except	5,614	No
GI - Symptoms	WDL except;GI Symptoms (Row)	3,149	No
GI - Symptoms	obese	1,471	Invalid Value
GI - Symptoms	nausea - intermittent	1,438	Yes
GI - Symptoms	WDL except;Abdominal Appearance (Row)	1,389	Yes
GI - Symptoms	Bowel Sounds (Group)	1,193	No
GI - Symptoms	WDL except;Abdominal Appearance (Row);GI Symptoms (Row)	1,012	Yes
Misc - Patient vomiting	1.000	876	Yes
PONV Interventions	other (see comments)	838	Invalid Value
GI - Symptoms	distended	796	No
GI - Symptoms	other (see comments)	751	Invalid Value
GI - Symptoms	abdominal discomfort	746	No
GI - Symptoms	nausea - continuous	697	Yes
GI - Symptoms	contour irregular	664	No
GI - Symptoms	abdominal pain	647	No
GI - Symptoms	abdominal discomfort;abdominal pain	509	No
GI - Symptoms	emesis / vomiting	503	Yes

### Missing or Unknown

(Description not provided)

### Invalid Value

(Description not provided)

### No

(Description not provided)

### Yes

(Description not provided)

## BP 03 – Process Measure

- Similar measure to BP 01 with tightened parameters based on most recent literature review.

**BP 01:** Percentage of cases where intraoperative hypotension (MAP < 55 mmHg) was sustained for less than 20 minutes



**BP 03:** Percentage of cases where intraoperative hypotension (MAP < **65 mmHg**) was sustained for less than **15 minutes**

# SUS 01 Measure

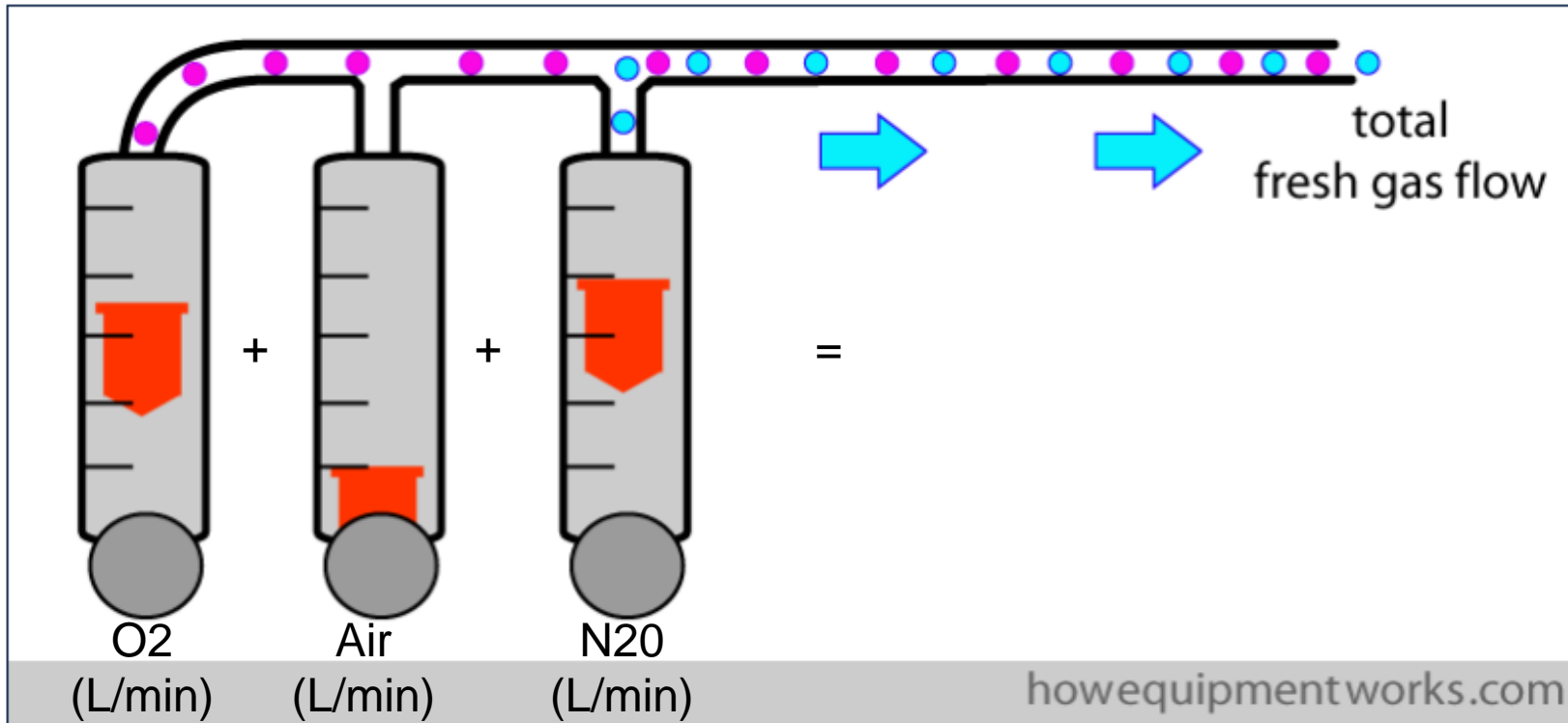
**Description:** Percentage of cases with mean fresh gas flow (FGF) equal to, or less than 3L/min, during administration of halogenated hydrocarbons and/or nitrous oxide

**Rationale:** Halogenated agents and nitrous oxide leaking or vented into the atmosphere are environmental pollutants. Reducing fresh gas flows can reduce cost of anesthesia without compromising patient care.

**Inclusions:** Patients administered halogenated hydrocarbons and/or nitrous oxide, for greater than or equal to 30 minutes from placement of the airway device to removal of the airway device.

**Success:** Mean FGF equal to, or less than 3L/minute when inspired halogenated hydrocarbons is  $>0.2\%$ , or nitrous oxide FGF  $>0.2\text{L/min}$ , during the maintenance period of anesthesia.

# SUS 01 Explained



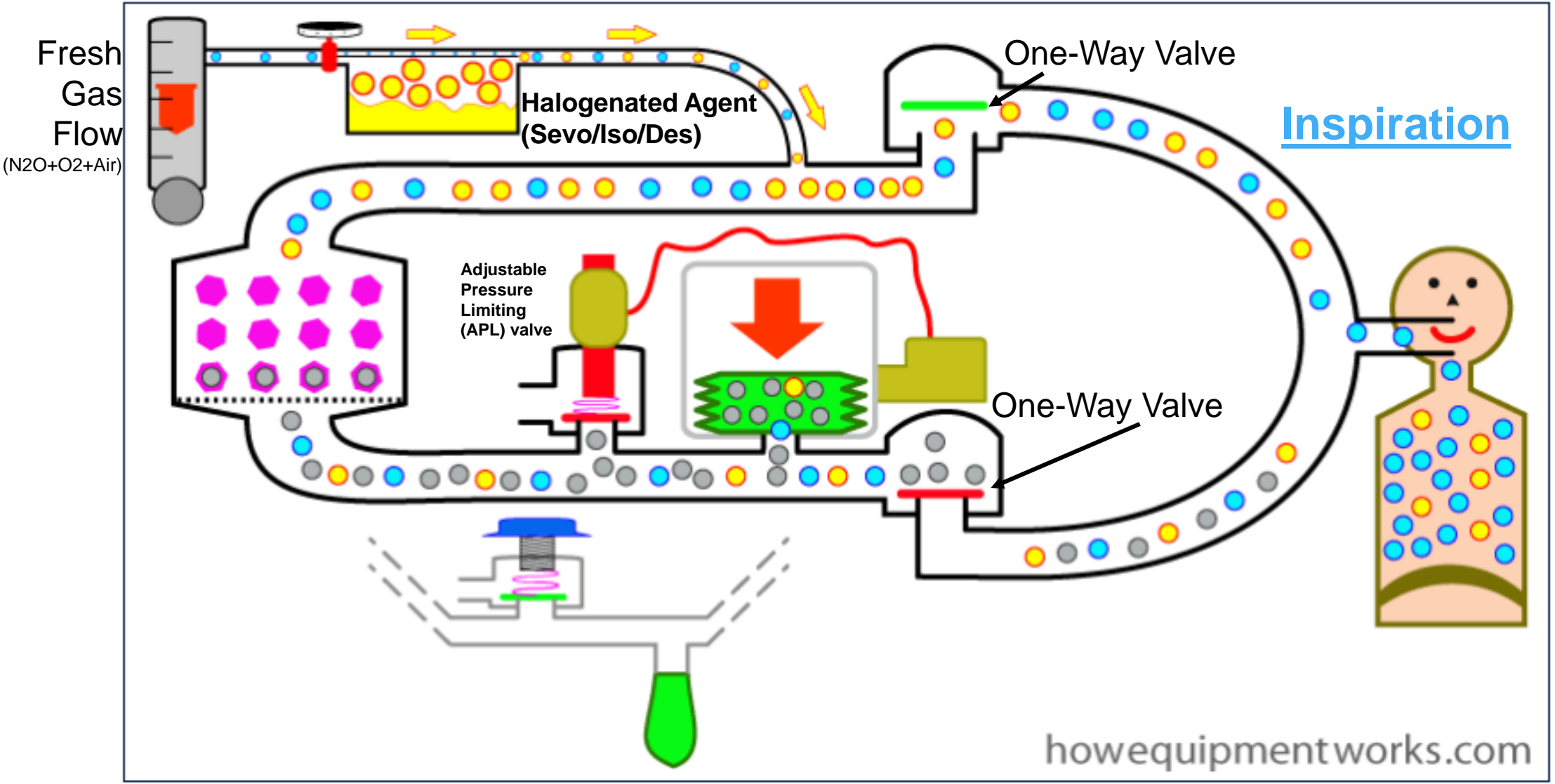
1) Determine # of minutes N<sub>2</sub>O or a halogenated agent was running: count minutes where %inspired (sevo/iso/des/N<sub>2</sub>O) was documented- must be ≥30 minutes to include the case.

2) Calculate the average L/min of total fresh gas flow by determining the total L/min (O<sub>2</sub> + Air + Nitrous Oxide) for each minute that agent/N<sub>2</sub>O was on, and divide by the total number of minutes that a halogenated agent or N<sub>2</sub>O was running.



# SUS 01 Rationale Explained

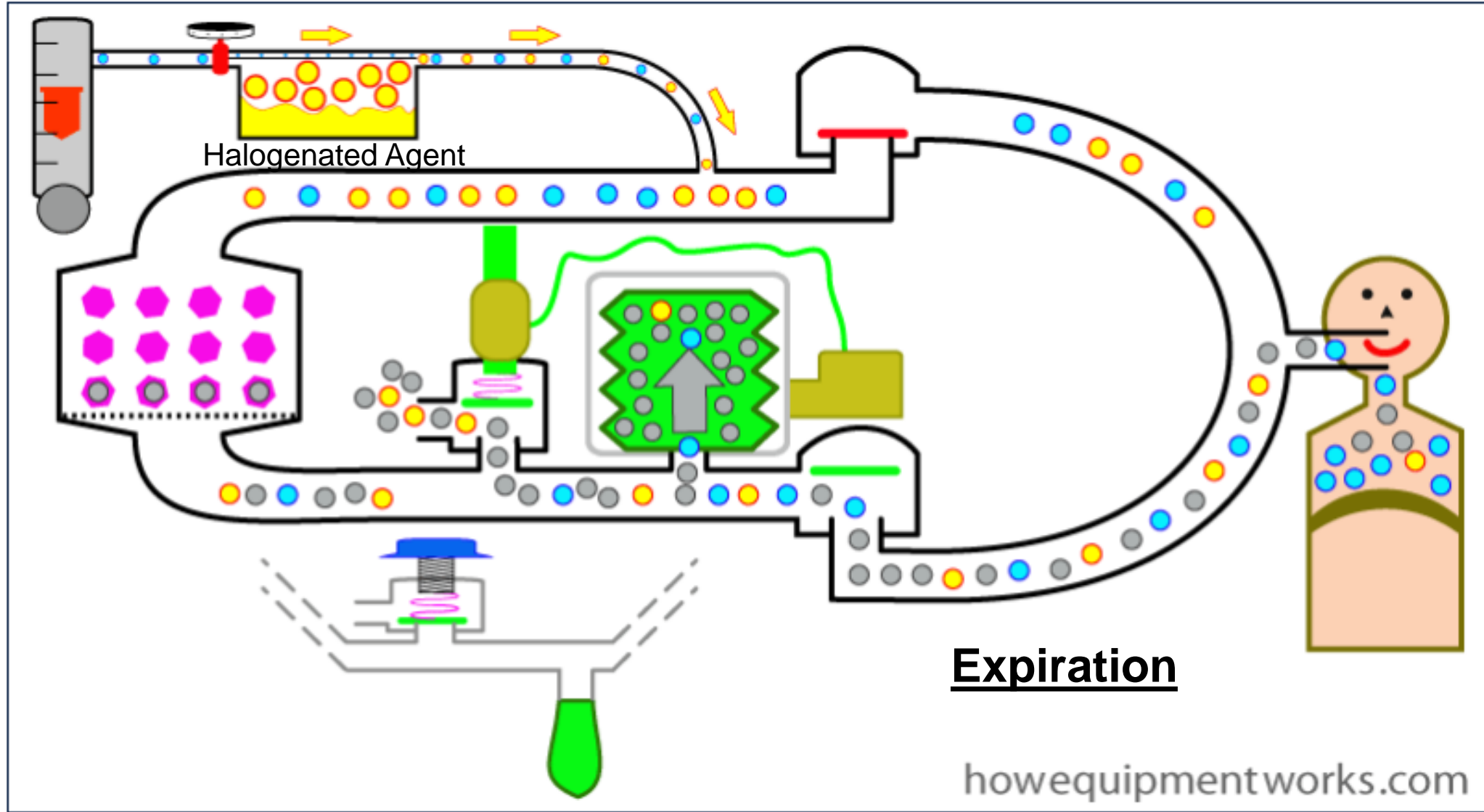
- O2/Air
- CO2
- Halogenated Agent (Sevo/Iso/Des) or N2O



howequipmentworks.com

# SUS 01 Rationale Continued

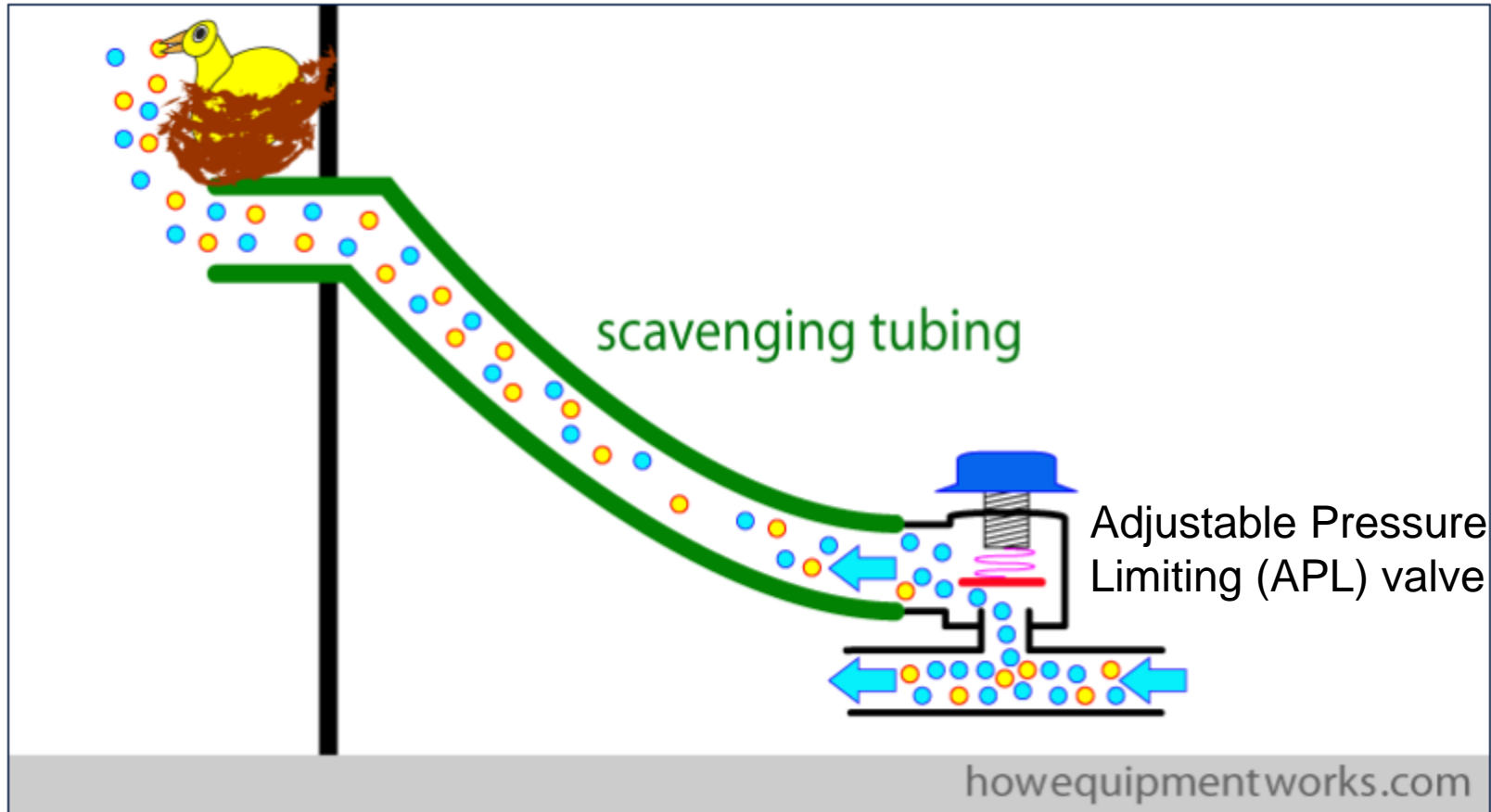
- O2/Air
- CO2
- Halogenated Agent (Sevo/Iso/Des) or N2O



For more information, visit this website: [https://www.howequipmentworks.com/circle\\_breathing\\_system/](https://www.howequipmentworks.com/circle_breathing_system/)



# SUS 01: How halogenated agents (gases) and N<sub>2</sub>O make it outside the OR and into our universe



For more information, visit this website: [https://www.howequipmentworks.com/circle\\_breathing\\_system/](https://www.howequipmentworks.com/circle_breathing_system/)

# SUS 01: Why is % inspired agent measured instead of % expired?

- The patient will continue to expire halogenated agent (N<sub>2</sub>O) even after the agent(s) have been turned off.
- Flows are increased upon induction to 'flush' the agent into the patient and anesthetize them (this is usually a short period)
- Flow are increased again upon emergence to 'flush' the agent out of the patient and allow them to wake up (this can take longer)
- Providers don't want to be measured on their fresh gas flow rate (which could be high) during emergence when the agents are turned off but the patient may still be expiring agents.
- If we only measure the flows from 'agent on' to 'agent off,' we limit the risk of inflating our average due to high flow with emergence.

# DataDirect 2.0 Overview

**Mike Mathis, MD**

Associate Research Director

Multicenter Perioperative Outcomes Group (MPOG)

ACQR Retreat- September 20, 2019

# Objectives

- DataDirect as a tool used for quality and research
- Overview of the new application
- Enhancements for upcoming year

# Problem Statement

- Enable data to be accessible for:
  - Research studies
  - Quality Improvement Initiatives
- ***...without needing:***
  - Anything to do with SQL, Python, Java, R, or SPSS
  - To be a first-degree relative of your hospital's CMIO

# What is DataDirect?

- Tool allowing health providers who are NOT computer scientists to access data
- User-friendly way to query data stored in MPOG Central database
- Uses **filters** to identify a cohort of patients for:
  - Research study
  - Quality improvement project
- Limited data set – no PHI except date of service and MPOG Case IDs



# How to Obtain Access

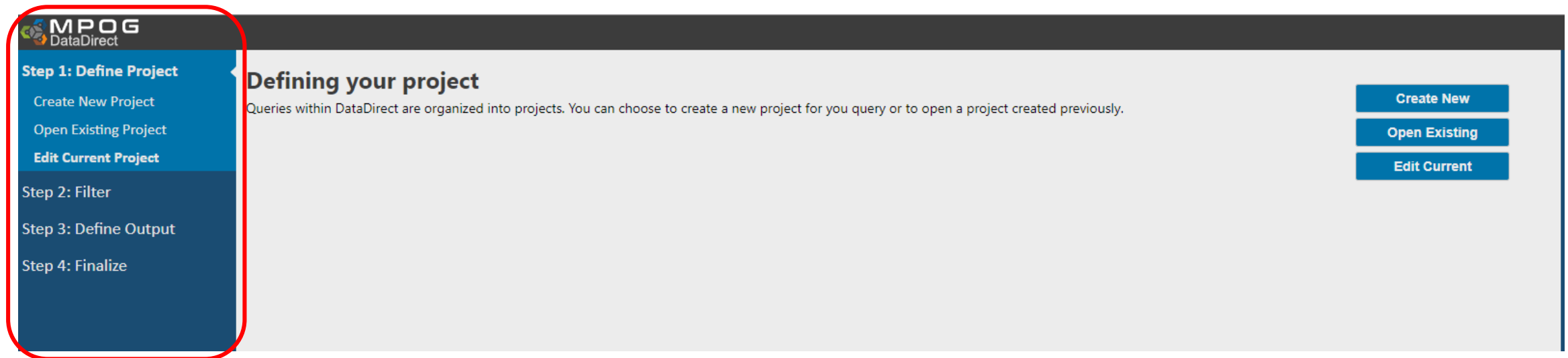
- Accessed via the web: [DataDirect](#)
- New [User Guide](#) Coming Soon!
- All users need to complete [DataDirect Security Checklist and Authorization Form](#)
- DataDirect roles are assigned by MPOG based on the user's role in MPOG
  - Quality Champions/ACQRs
  - Researchers
- Access expires every 6 months- must renew to maintain access

# DataDirect 2.0: Getting Started

- Intuitive, step-by-step instructions for how to setup your query

## STEP 1: Define your project

- New
- Open Existing
- Edit Current



The screenshot displays the MPOG DataDirect interface. On the left, a vertical task bar is highlighted with a red border, containing the following steps: 'Step 1: Define Project' (with sub-options 'Create New Project', 'Open Existing Project', and 'Edit Current Project'), 'Step 2: Filter', 'Step 3: Define Output', and 'Step 4: Finalize'. The main content area is titled 'Defining your project' and includes the text: 'Queries within DataDirect are organized into projects. You can choose to create a new project for you query or to open a project created previously.' To the right of this text are three blue buttons: 'Create New', 'Open Existing', and 'Edit Current'. The MPOG DataDirect logo is visible in the top left corner of the interface.

- Task bar on the left side allows for easy navigation through the tool

# Creating a New Query

**Step 1: Define Project**

- Create New Project
- Open Existing Project
- Edit Current Project

**Step 2: Filter**

**Step 3: Define Output**

**Step 4: Finalize**

## Create a New Query

Name your project and set a few attributes.

**Project Name**

**Description (optional)**

**Query Mode**

- Cohort Only *i*
- PCRC Proposal *i*
- Quality Report *i*

**Starting Population**

**All Patients** 7,271,709 patients  
All MPOG patients and cases 12,015,843 cases  
55 institutions

**Save & Next**

## Query Modes

- **Cohort Only**: Generates *count* to determine *feasibility*; no ability to download data
- PCRC Proposal (Research)
  - **Single Center** – data query + raw data (site approval)
  - **Multi-center** - data query + raw data (needs multicenter approval)
- **Quality Report**: cohort count, data query, case list for **site**

# STEP 2: Filtering Cases

**MPOG DataDirect** Kathryn Buehler **Logout**

**Step 1: Define Project**

- Create New Project
- Open Existing Project
- Edit Current Project

**Step 2: Filter**

- Demographics
- Cases
- Comorbidities
- Diagnoses
- Procedures
- Medication Administration
- Intraoperative Notes
- Physiologic
- Laboratory
- Outcomes

**Step 3: Define Output**

**Step 4: Finalize**

## Filtering Cases

Here you will apply filters to define your cohort and return only cases that you're interested in. The available filters are listed on the left sidebar while the size of your cohort will be dynamically updated on the right.

**Next**

**Project**

ACQR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**

Start	12,015,843 cases
All Patients	55 institutions

# STEP 2: Filtering Cases- Demographics

MPOG DataDirect Kathryn Buehler Logout

**Step 1: Define Project**  
Create New Project  
Open Existing Project  
Edit Current Project

**Step 2: Filter**  
Demographics  
**Cases**  
Comorbidities  
Diagnoses  
Procedures  
Medication Administration  
Intraoperative Notes  
Physiologic  
Laboratory  
Outcomes

**Step 3: Define Output**

**Step 4: Finalize**

### Cases

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

**Add & Next**  
**Skip & Next**

Procedure Date  to

CPT Base Units   to

Weekend Case  Yes  No

Holiday Case  Yes  No

ASA Status  ASA 1  ASA 2  ASA 3  ASA 4  ASA 5  ASA 6

Emergency Status  Yes  No  Unspecified

Admission Type  Inpatient  
 Outpatient  
 Other  
 Unknown

Case Duration  minute(s) to  minute(s)

Cardiac Case  Yes  No

Anesthesia Technique General  Yes  No

Anesthesia Technique LMA  Yes  No

Endotracheal Tube Used  Yes  No

Anesthesia Technique Neuraxial  Yes  No

Anesthesia Technique Block  Yes  No

**Project**  
ACOR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**

Start	12,015,843 cases
All Patients	55 institutions

**Demographics**  
Gender: Female or Unknown  
Age: 20 years - 60 years  
BMI: 0.0 - 100.0  
Institution: University of Michigan Health System  
285,028 cases  
1 institutions

# STEP 2: Filtering Cases- Cohort refreshes as you add filters

MPOG DataDirect Kathryn Buehler Logout

**Step 1: Define Project**  
Create New Project  
Open Existing Project  
Edit Current Project

**Step 2: Filter**  
Demographics  
**Cases**  
Comorbidities  
Diagnoses  
Procedures  
Medication Administration  
Intraoperative Notes  
Physiologic  
Laboratory  
Outcomes

**Step 3: Define Output**  
**Step 4: Finalize**

### Cases

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

**Add & Next**  
**Skip & Next**

Procedure Date  to

CPT Base Units   to

Weekend Case  Yes  No

Holiday Case  Yes  No

ASA Status  ASA 1  ASA 2  ASA 3  ASA 4  ASA 5  ASA 6

Emergency Status  Yes  No  Unspecified

Admission Type  Inpatient  
 Outpatient  
 Other  
 Unknown

Case Duration   minute(s) to  minute(s)

Cardiac Case  Yes  No

Anesthesia Technique General  Yes  No

Anesthesia Technique LMA  Yes  No

Endotracheal Tube Used  Yes  No

Anesthesia Technique Neuraxial  Yes  No

Anesthesia Technique Block  Yes  No

**Project**  
ACOR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**  
Start **12,015,843 cases**  
All Patients 55 institutions

**Demographics**  
Gender: Female or Unknown  
Age: 20 years - 60 years  
BMI: 0.0 - 100.0  
Institution: University of Michigan Health System  
**285,028 cases**  
1 institutions

# STEP 2: Filtering Cases- Modifying selected filters

**Cases**  
Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Procedure Date  to

CPT Base Units  3 to

Weekend Case  Yes  No

Holiday Case  Yes  No

ASA Status  ASA 1  ASA 2  ASA 3  ASA 4  ASA 5  ASA 6

Emergency Status  Yes  No  Unspecified

Admission Type  Inpatient  
 Outpatient  
 Other  
 Unknown

Case Duration   minute(s) to  minute(s)

Cardiac Case  Yes  No

Anesthesia Technique General  Yes  No

Anesthesia Technique LMA  Yes  No

Endotracheal Tube Used  Yes  No

Anesthesia Technique Neuraxial  Yes  No

Anesthesia Technique Block  Yes  No

**Update & Next**  
**Skip & Next**  
**Disable this filter**  
**Delete this filter**

**Project**  
ACQR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**  
Start All Patients 12,015,843 cases  
55 institutions

**Demographics**  
Gender: Female or Unknown  
Age: 20 years - 60 years  
BMI: 0.0 - 100.0  
Institution: University of Michigan Health System  
285,028 cases  
1 institutions

**Cases**  
Procedure Date: 01/01/2018 - 01/01/2019  
ASA Status: ASA 1 or ASA 2 or ASA 3 or ASA 4  
Emergency Status: Yes  
Admission Type: Inpatient  
Anesthesia time: 1 minute - 1440 minutes  
1,306 cases  
1 institutions

**Procedures**  
include: 01967 < 10 cases  
1 institutions

After making the selection changes, click 'Update & Next' to apply the filter.

Click the filter header that you wish to modify on the 'Project' results bar.

# STEP 2: Filtering Cases- Modifying selected filters

MPOG DataDirect Kathryn Buehler Logout

**Step 1: Define Project**  
Create New Project  
Open Existing Project  
Edit Current Project

**Step 2: Filter**  
Demographics  
**Cases**  
Comorbidities  
Diagnoses  
Procedures  
Medication Administration  
Intraoperative Notes  
Physiologic  
Laboratory  
Outcomes

**Step 3: Define Output**

**Step 4: Finalize**

### Cases

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Procedure Date  to

CPT Base Units  3 to

Weekend Case  Yes  No

Holiday Case  Yes  No

ASA Status  ASA 1  ASA 2  ASA 3  ASA 4  ASA 5  ASA 6

Emergency Status  Yes  No  Unspecified

Admission Type  Inpatient  
 Outpatient  
 Other  
 Unknown

Case Duration   minute(s) to  minute(s)

Cardiac Case  Yes  No

Anesthesia Technique General  Yes  No

Anesthesia Technique LMA  Yes  No

Endotracheal Tube Used  Yes  No

Anesthesia Technique Neuraxial  Yes  No

Anesthesia Technique Block  Yes  No

**Update & Next**  
**Skip & Next**  
**Disable this filter**  
**Delete this filter**

**Project**  
ACQR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**  
Start 12,015,843 cases  
All Patients 55 institutions

**Demographics**  
Gender: Female or Unknown  
Age: 20 years - 60 years  
BMI: 0.0 - 100.0  
Institution: University of Michigan Health System  
285,028 cases  
1 institutions

**Cases**  
Procedure Date: 01/01/2018 - 01/01/2019  
ASA Status: ASA 1 or ASA 2 or ASA 3 or ASA 4  
Anesthesia time: 1 minute - 1440 minutes  
25,142 cases  
1 institutions

**Procedures**  
include: 01967 2,204 cases  
1 institutions

Better!



## STEP 2: Filtering Cases Summary

- Finalize all filters as prompted by the guided step-by-step process
- As filters are added, counts for the cohort size will continue to refresh in real-time
- Click directly on the filter headers to modify previously selected filters
- Move on to Step 3 once filters are selected and cohort size seems plausible

**MPOG DataDirect** Kathryn Buehler **Logout**

**Step 1: Define Project**

- Create New Project
- Open Existing Project
- Edit Current Project

**Step 2: Filter**

- Demographics
- Cases**
- Comorbidities
- Diagnoses
- Procedures
- Medication Administration
- Intraoperative Notes
- Physiologic
- Laboratory
- Outcomes

**Step 3: Define Output**

**Cases**

Perioperative case characteristics from the clinical documentation and professional fee billing systems. Some patient characteristics (ASA status) may change from one case to another and reflect the information known at the time of that case.

Procedure Date: 01/01/2018 to 01/01/2019

CPT Base Units:  3 to  30

Weekend Case:  Yes  No

Holiday Case:  Yes  No

ASA Status:  ASA 1  ASA 2  ASA 3  ASA 4  ASA 5  ASA 6

Emergency Status:  Yes  No  Unspecified

Admission Type:  Inpatient  Outpatient  Other  Unknown

Case Duration: Anesthesia time: 1 minute(s) to 1440 minute(s)

Cardiac Case:  Yes  No

**Update & Next**

**Skip & Next**

**Disable this filter**

**Delete this filter**

**Project**

ACQR Test  
Project ID: 2128  
Query Mode: cohort  
Last updated on 9/18/2019

**Cohort Size**

Start: **12,015,843 cases**  
All Patients: 55 institutions

**Demographics**

Gender: Female or Unknown  
Age: 20 years - 60 years  
BMI: 0.0 - 100.0  
Institution: University of Michigan Health System  
**285,028 cases**  
1 institutions

**Cases**

Procedure Date: 01/01/2018 - 01/01/2019  
ASA Status: ASA 1 or ASA 2 or ASA 3 or ASA 4  
Anesthesia time: 1 minute - 1440 minutes  
**25,142 cases**  
1 institutions

**Procedures**

include: 01967  
**2,204 cases**  
1 institutions

# STEP 3: Define Outputs

The screenshot shows the MPOG DataDirect interface during the 'Step 3: Choose Output' phase. The left sidebar lists four steps: 'Step 1: Define Project', 'Step 2: Filter', 'Step 3: Choose Output' (highlighted), and 'Step 4: Finalize'. The main content area is titled 'Choose Output Items' and includes a search bar, a list of 'Available Output Items' (such as Anesthesia Duration, Anesthesia End, Anesthesia Start, Antiemetics Given, Baseline Blood Pressure, and Core Temperature Location Documented), and a 'Selected Output Items' list (including Age, ASA Class (Merged), and Admission Type). A 'Next' button is visible in the top right of the main area. The right sidebar displays project details for 'Mark's Super Amazing Query' and cohort information, including 'Cohort Size' (11,594,452 cases), 'Demographics' (Age > 18, Female), 'Comorbidities' (Diabetes), and 'Output' (Total Items: 3, Custom Elements: 1).

- **Outputs** = Column headers for your downloadable Excel file
- Outputs are available on the left side of the screen - click (+) to add to right side of the screen
- Final selection of outputs are listed on the right, some are defaults that can be removed, if desired

# STEP 4: Review and Finalize

**Review and Finalize**

Here you can review your choices in detail and save documents relevant to your proposal.

[Download Docs](#)

[Download Data](#)

*\*Downloading data is disabled in PRCR mode.*

**Cohort Details**

Filter	Cases	Patients	Institutions
Start All Patients	11,594,452	9,845,234	45
Demographics Age > 18 Female 7 Selected Institutions	2,864,021	2,143,429	7
Comorbidities Diabetes	290,351	190,465	5

**Data Quality Disclaimers**

For any given output item, there will be variation in data quality as different institutions have different documentation practices. Below you can find basic data quality information for each of your selected output items. Note these numbers are for the entirety of MPOG and are **not representative of your filter selection**. Once you've run your query, the result set will include a data quality report for your specific cohort.

Output Item	Case Fill Rate	Reporting Institutions
Age	99%	45
Patient Race	62%	40
Weight	88%	44
Diabetes	35%	15

**Query Output Specification**

**Table 1 - Main Case List**  
This table contains a single row for each case in the research cohort. Any data element that

Display Name	Source	Data Direct Category
MPOG Case ID	Phenotype: MPOG Case ID	
Institution	Institution Randomizer	Basic Elements
Case Time	Phenotype: Case Start	
Age	Phenotype: Age in Years	
ASA Class	Phenotype: ASA Status Classification	
Weight	Phenotype: Weight	Preop
Height	Phenotype: Height	
Propofol Total	Med Totaling: Propofol	Medications
Betablockers	Phenotype: Preop Betablockers	
Re-positioning Count	(CUSTOM)	(CUSTOM)

**Table 2 - Medications**  
This table contains one row per medication administration/rate change. As such, given case

**Project**  
Mark's Super Amazing Query  
Query ID 12345  
Created on 7/17/2019

**Cohort Size**

Start: 11,594,452 cases  
All Patients: 45 institutions

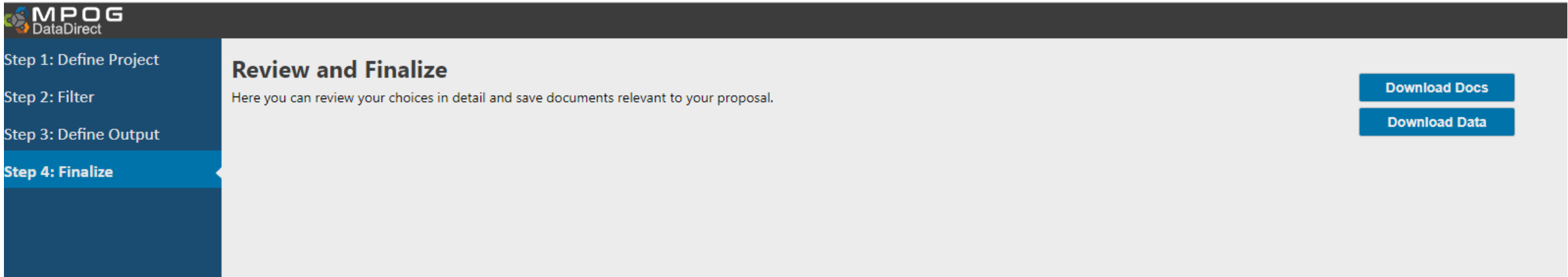
**Demographics**: 2,864,021 cases  
Age > 18: 7 institutions  
Female: 7 Selected Institutions

**Comorbidities**: 290,351 cases  
Diabetes: 5 institutions

**Output**

Total Items: 3  
Custom Elements: 1

# STEP 4: Review and Finalize



The screenshot shows the MPOG DataDirect interface. On the left, a vertical navigation menu lists four steps: 'Step 1: Define Project', 'Step 2: Filter', 'Step 3: Define Output', and 'Step 4: Finalize'. 'Step 4: Finalize' is highlighted in a darker blue. The main content area is titled 'Review and Finalize' and contains the text: 'Here you can review your choices in detail and save documents relevant to your proposal.' On the right side of the main area, there are two blue buttons: 'Download Docs' and 'Download Data'.

- Based on query mode, different options:
- **Download Query Specification** (Research Mode, Quality Report Modes)
- **Download Data:** Output of your institution's data for the query (Quality Report Mode)
- **No download option** (Cohort Only Mode)

## Next Steps

- Add quality measures and MPOG outcomes as additional filters
- Add “Quality of Data” as a part of report
  - Sample data
  - Fill rates
  - Data distribution
  - Reporting institutions
- Option to set up repeating reports (auto-sent via email)

THANK YOU!  
Questions?

# Reminders and Wrap-Up

- **MPOG Application Suite upgrades**

- Scheduled for the week of **October 28<sup>th</sup>**, the Suite might be temporarily inaccessible during that time. MPOG technical team will schedule a 30 minute meeting with each site's technical team to apply upgrade.

- **Continue to update Provider Contacts**

- **Mark Your Calendars!!**

- 2020 ACQR Retreat: September 18<sup>th</sup>

- **Q & A**



**Safe Travels and Thank You for Joining us Today!**

