



# Welcome!

*We will begin shortly...*



# ASPIRE Collaborative Meeting

July 15th 2022

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**8:00 – 9:00**

**Registration and Breakfast**

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**8:00 – 9:00**

**ACQR Meeting**

Four Seasons Room

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**9:00 – 9:30**

**Intro and Business**

Nirav Shah, MD

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**9:30 – 9:45**

**Web Case Viewer**

Nirav Shah, MD

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**9:45 - 10:15**

**QI Stories (15-minutes each)**

Dr. Benjamin Stam and Rebecca Johnson, Spectrum Health

Dr. Meredith Hall and Denise Schwerin, Bronson Health

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**10:15 – 10:30**

**Break**

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**10:30 – 11:10**

**Hypotension Associated Outcomes, and Appropriate  
Definitions of Hypotension**

Kamal Maheshwari, M.D., M.P.H.  
Cleveland Clinic

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**11:10 – 11:50**

**Rational Vasopressor Selection**

Allison Janda, MD  
MPOG / Michigan Medicine

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**11:50 – 12:00**

**Discussion and Questions**

Kamal Maheshwari, MD, MPH  
Allison Janda, MD

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**12:00 – 1:00**

**Lunch**

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**1:00 – 2:30**

**ASPIRE Performance Review**

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# Post Meeting Information on our website

- Presentation slides, notes, and recordings
- CME Information



Please note, the Performance Review information will not be recorded



A scenic view of a coastline with a wooden boardwalk and a large body of water. The boardwalk is made of wooden planks and has a railing. It runs along a dense forest of green trees. In the distance, a large body of water, likely a lake or ocean, stretches to the horizon under a clear blue sky. The water is a deep blue color. The text "THANK YOU!" is overlaid in the center of the image in a large, white, sans-serif font.

**THANK YOU!**

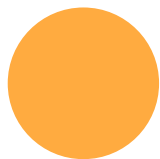
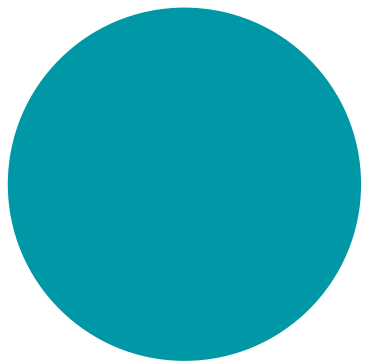
A large, modern brick building with many windows, identified as St. Joseph Mercy Hospital. In the foreground, there is a green lawn and a sign that reads "ST. JOSEPH MERCY HOSPITAL".

# ***MPOG Featured Member July and August 2022***

[MORE INFO](#)



***Jerri Heiter, RN  
Anesthesiology Clinical Quality Reviewer (ACQR)  
Trinity St. Joseph Ann Arbor, Chelsea & Livingston***



# Upcoming Events





# ACQR Retreat

September 16, 2022

DoubleTree Hotel, Ann Arbor



# MPOG Annual Retreat

October 21, 2022  
New Orleans, LA

In person + virtual



# Recruitment 2023



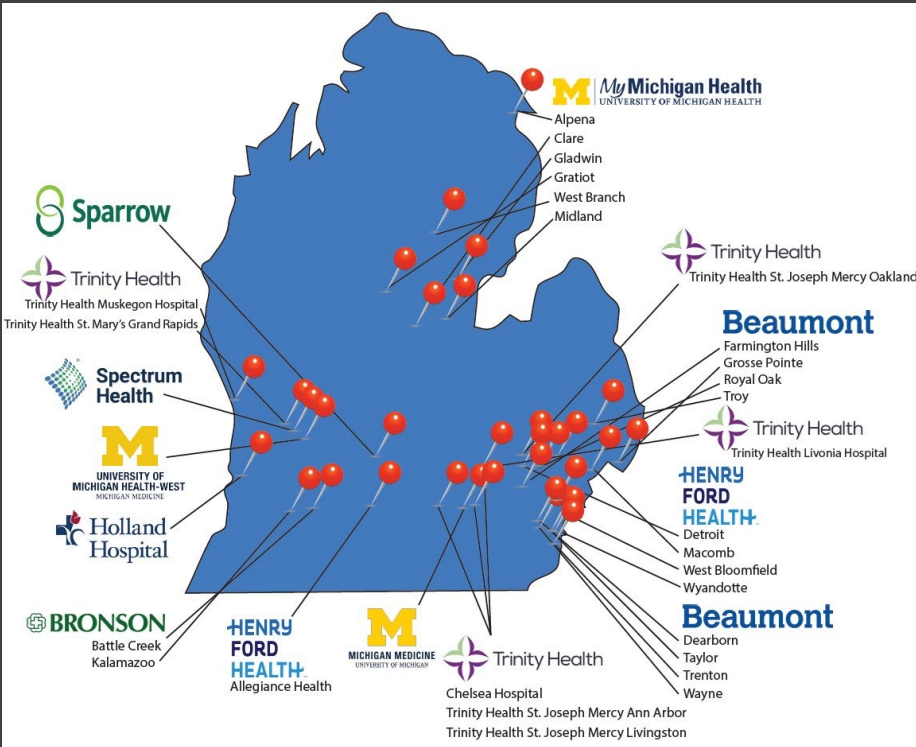
# Our perspective and plan

Have had steady recruitment last few years (University of Michigan Health West, Spectrum, MyMichigan, and others)

About 35 sites now across the state

No plans for aggressive recruitment, but understand that there are sites / providers that are unable to join because lack of hospital or IT support

Anticipate that there will be a few more health system sites added over time





**Health Equity and  
ASPIRE**



# Michigan Social Health Interventions to Eliminate Disparities

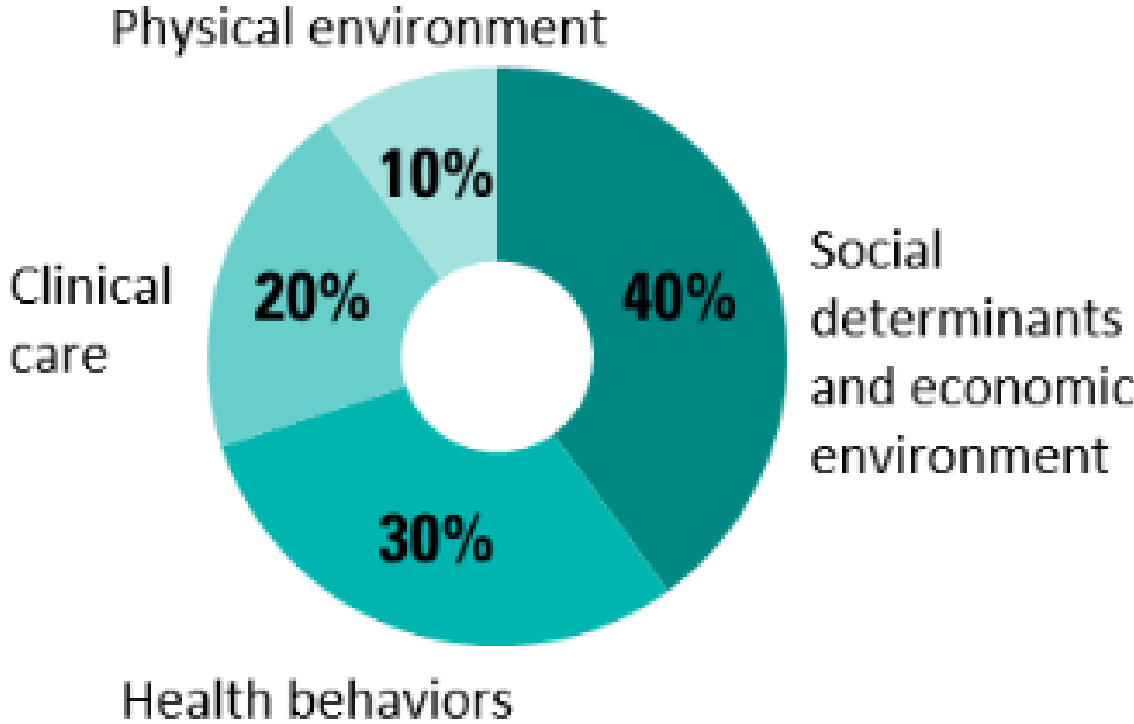
**MSHIELD**

MSHIELD CQI (Michigan Social Health Interventions to Eliminate Disparities) is a “partnering CQI”

MSHIELD has expertise in working with data involving social determinants of health and health disparities

One of MSHIELD’s primary goals is to be a partner to all existing CQIs to help each CQI achieve their quality improvement goals in a way that advances health equity

**Social determinants of health** account for 40% of health outcomes.



# Their Mission and People



**Identify:** Identify social health needs in patients across the spectrum of care, from acute to chronic care and across patients with all medical and surgical conditions.



**Evaluate:** Evaluate the effectiveness of social health interventions within hospitals/health systems, CQIs, and community regions.



**Connect:** Connect all patients who have identified social health needs with community-based and social service resources to address these needs.



**Grow:** Support CQI efforts to understand and address social needs and inequities in their patient populations, and community and state efforts to improve upstream social determinants of health.



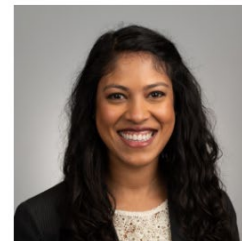
Renuka (Renu) Tiipirneni, M.D., M.Sc.,  
Co-Director, MSHIELD



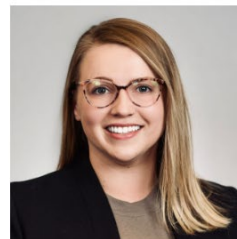
John Scott, M.D., M.P.H.,  
Co-Director, MSHIELD



Carol Gray, M.P.H.,  
Program Manager



Dilhara Muthukuda, M.P.H.,  
Health Equity Specialist



Jordan Greene, M.P.H.,  
Engagement Specialist



Sarah Gawne  
Administrative Assistant Senior

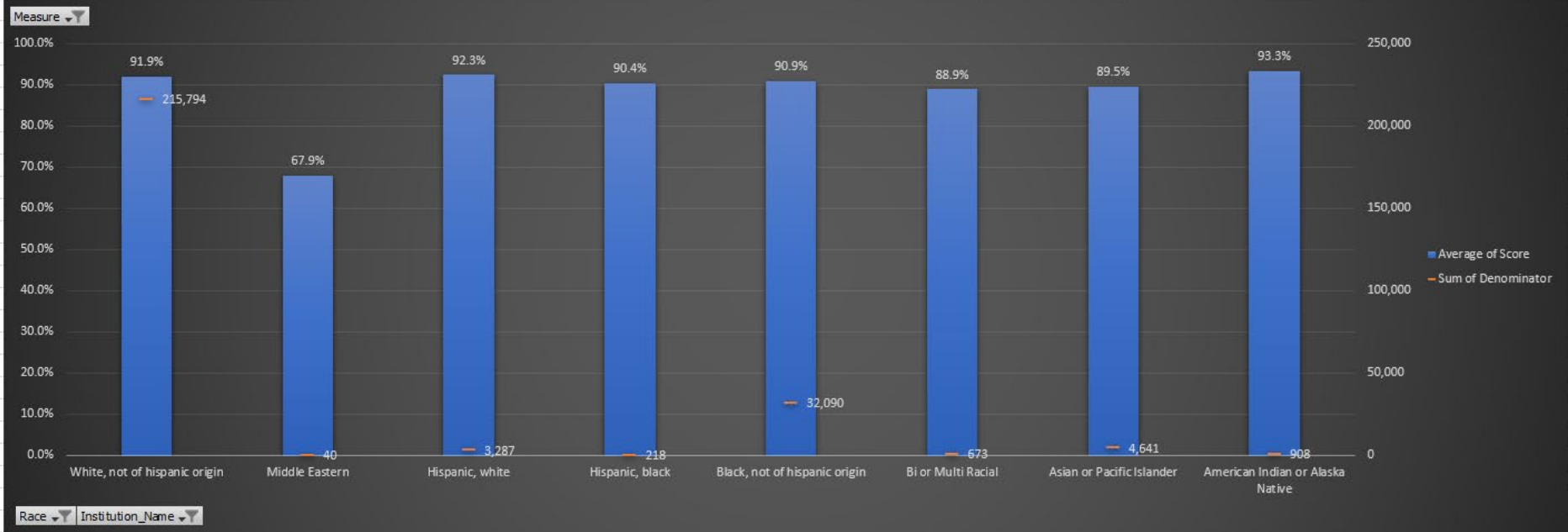


# CQI Requirements

Identify a Health Equity Champion

Build your Health Equity Dashboard

Connect patients in need to community resources



Race/Ethnicity	Average of Score	Sum of Denominator
⊕ White, not of hispanic origin	91.9%	215,794
⊕ Middle Eastern	67.9%	40
⊕ Hispanic, white	92.3%	3,287
⊕ Hispanic, black	90.4%	218
⊕ Black, not of hispanic origin	90.9%	32,090
⊕ Bi or Multi Racial	88.9%	673
⊕ Asian or Pacific Islander	89.5%	4,641
⊕ American Indian or Alaska Native	93.3%	908

**PONV Toolkit is  
complete!**

# Existing Toolkits



## Acute Kidney Injury (AKI)

[Click Here](#)



## Acute Respiratory Complications

[Click Here](#)



## Perioperative Transfusion Stewardship

[Click Here](#)



## Postoperative Nausea and Vomiting (PONV)

[Click Here](#)



## Surgical Site Infection






[Click Here](#)

# Postoperative Nausea & Vomiting QI Toolkit

OVERVIEW: I

RECOMMENDATIONS: PREVENTION & TREATMENT

# Objectives

-  Define postoperative nausea and vomiting (PONV)
-  Discuss the incidence and impact of PONV
-  Review the pathophysiology related to PONV
-  Identify risk factors for PONV
-  Review ASPIRE PONV measures



# Combination Therapy Recommended

4<sup>th</sup> Consensus Guidelines for the Management of Postoperative Nausea and Vomiting (ASER & SAMBA-2020) recommendations:

- 1) **Combination antiemetic therapy ( $\geq 2$ ) for patients at high risk ( $\geq 3$  Risk Factors) for PONV.**
- 2) Combination therapy should consist of medications from different classes, using minimum effective dosing
- 3) Use of multimodal PONV prophylaxis in patients with 1 or 2 risk factors (multimodal includes use of TIVA, alternative therapy, medications) <sup>2,95</sup>

**Table 5. Pharmacologic Combination Therapy for Adults and Children**

## Adults

5-HT<sub>3</sub> receptor antagonists + dexamethasone

Ondansetron: (A1)<sup>158,159</sup>

Palonosetron: (A2)<sup>160-164</sup>

Ramosetron: (A2)<sup>165,166</sup>

Granisetron: (A3)<sup>167</sup>

Tropisetron: (A3)<sup>168</sup>; with methylprednisolone (A3)<sup>169</sup>

5-HT<sub>3</sub> receptor antagonists + aprepitant

Ondansetron: (A2)<sup>170,171</sup>

Ramosetron: (A3)<sup>172</sup>

Palonosetron: (A3)<sup>173</sup>

Aprepitant + dexamethasone: (A2)<sup>174,175</sup>

5-HT<sub>3</sub> + droperidol

Ondansetron + droperidol: (A3)<sup>176</sup>

Granisetron + droperidol: (A3)<sup>177</sup>

Palonosetron + droperidol: (A3)<sup>178</sup>

Other 5-HT<sub>3</sub> combination therapies:

Ondansetron + haloperidol: (A3)<sup>179</sup>

Haloperidol + dexamethasone + ondansetron: (A3)<sup>180</sup>

Ondansetron + betahistine: (A2)<sup>181,182</sup>

Ramosetron + gabapentin: (A3)<sup>183</sup>

Midazolam + ramosetron: (A3)<sup>184</sup>

Other antidopaminergic combination therapies

Dexamethasone + haloperidol: (A2)<sup>185,186</sup>

Metoclopramide + dimenhydrinate: (A3)<sup>187</sup>

Amisulpride +1 nondopaminergic antiemetic: (A3)<sup>188</sup>

Haloperidol + midazolam: (A2)<sup>189,190</sup>

Acupoint stimulation + pharmacoprophylaxis: (A2)<sup>191,192</sup>

Others

Propofol + dexamethasone: (A3)<sup>193</sup>

Dexamethasone + dimenhydrinate:<sup>194</sup> (A3)

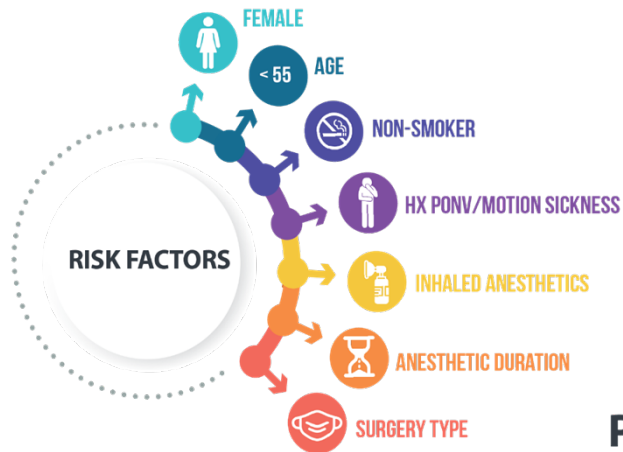
Gabapentin + dexamethasone: (A3)<sup>195</sup>

Children

Ondansetron + dexamethasone: (A1)<sup>196</sup>

Ondansetron + droperidol (A3)<sup>197</sup>

Tropisetron + dexamethasone (A3)<sup>198</sup>



## ANESTHESIA CONSIDERATIONS



## PONV MANAGEMENT



Assess for, and treat PONV immediately with rescue antiemetic.

If prophylaxis was not given, administer low-dose 5-HT<sub>3</sub> receptor antagonist.

If prophylaxis was given, administer antiemetic from a different class.

### Preferred rescue antiemetics:

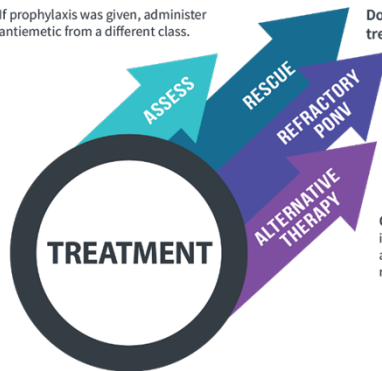
- 5-HT<sub>3</sub> receptor antagonist
- Amisulpride
- Promethazine
- Metoclopramide
- Dimenhydrinate

Do not re-dose scopolamine patch for treatment

Assess possible causes of refractory PONV:

- Hypotension
- GI abnormality
- Excessive opioid use

Consider multi-modal therapy including PCG stimulation, aromatherapy and non-opioid pain management to reduce symptoms



## PROPHYLAXIS

### 5-HT<sub>3</sub> ANTAGONISTS

ONDANSETRON  
GRANISETRON  
DOLASETRON  
PALONOSERTRON

### NK-1 ANTAGONISTS

APREPITANT  
FOSAPREPITANT

### CORTICOSTEROIDS

BETAMETHASONE  
DEXAMETHASONE  
METHYLPREDNISOLONE

### ANTICHOLINERGICS

SCOPOLAMINE

### ANTIHISTAMINES

PROMETHAZINE  
MECLIZINE  
HYDROXYZINE  
DIMENHYDRINATE  
DIPHENHYDRAMINE

### DOPAMINE ANTAGONISTS

AMISULPRIDE  
PERPHENAZINE  
DROPERIDOL  
METOCLOPRAMIDE  
CHLORPROMAZINE  
HALOPERIDOL



# **Web Caseviewer**

# Updated Version of Web Case Viewer - A new version of Web Case Viewer will be released by August provider feedback emails

MPOG Applications

caseviewer-test.mpop.org/Chart?id=3489x51a-4115-e311-b19b-0022191d9ed3

MPOG

Case ID: 3489x51a-4115-e311-b19b-0022191d9ed3

Institution: University of Michigan Health - Ann Arbor

Age/Sex/Race: 78 / Male / White, not of hispanic origin

Height/Weight: 174.0 cm / 78.9 kg

ASA Class: 4

Surgical Service: Cardiac

Admission: Anesth

Room Name: CVC C

Procedure: (Actual)AORTIC VALVE REPLACEMENT OR REPAIR WITH CABG WITH OR WITHOUT TVR, LEFT CAROTID ENDARTERECTOMY CAROTID ENDARTERECTOMY, LEFT CAROTID ENDARTERECTOMY

Main Chart

EKG Pulse Rate  
 SpO2 Pulse Rate  
 BP Sys Cuff  
 BP Sys Arterial  
 End Tidal CO2mm...

Anesthesia  
 In Room  
 Surgery

Time	Mapped As	Value	Original Variable
09/ 05:55:52	Anesthesia Machine Checked	Anesthesia Machine Checked	Anesthesia Machine Checked
09/ 05:55:53	Equipment Verified	Equipment verified	Equipment verified
09/ 05:55:55	Compliance/Billing (Misc)	Pre-Anesthesia evaluation completed and discussed with attending	Pre-Anesthesia evaluation completed and discussed with attending
09/ 06:52:49	Patient Identified	Patient identified, chart reviewed, status unchanged from preoperative evaluation	Patient identified, chart reviewed, status ... from preoperative evaluation
09/ 06:52:50	NPO Verification	NPO status confirmed to be solids > 8 hours and clear liquids > 3 hours	NPO status confirmed to be ...
09/ 06:58:31	IV Access (Misc)	New Site - Left Hand 16 g, placed by Physician in Prep Holding using 1 attempt(s).	Peripheral IV
09/ 06:58:43	NIBP Cuff Location	NIBP Cuff placed on R upper arm	NIBP Cuff placed on ...
09/ 07:00:00	Room Ready	Room Ready	Room Ready
09/ 07:04:41	Anesthesia Start	Anesthesia Start	Anesthesia Start
09/ 07:09:00	Arterial Line Placed	Arterial Line	Arterial Line
09/ 07:10:00	Patient in Room	Patient in Room	Patient in Room
09/ 07:19:15	Pre-Induction Verification	PRIOR to Induction/initiation of Anesthesia a VERIFICATION was conducted with active participation of Anes, OR Nursing, Surgery verifying correct patient, DOB, procedure, site, side, position, antibiotics, DVT prophylaxis & implant, images, special equip	PRIOR to Induction/initiation of Anesthesia a VERIFICATION was conducted with active participation of Anes, OR Nursing, Surgery verifying correct patient, DOB, procedure, site, side, position, antibiotics, DVT prophylaxis & implant, images, special equip
09/ 07:19:19	Preoxygenation/Denitrogenation	Patient preoxygenated using 8 L/min O2 by mask	Patient preoxygenated by ___ L/min O2 by mask
09/ 07:21:00	Mask Ventilation Difficulty (Scaled)	Mask ventilation Grade 1: Ventilated by mask	Mask ventilation ...
09/ 07:21:00	Eye Protection Detail	Mask removed and Eyes taped shut	Mask removed and Eyes ...
09/ 07:30:00	Intubation Tube	8.0 mm Single-lumen cuffed ET tube taped @ 24 cm	... mm ET tube taped @ ___ cm
09/ 07:30:00	Intubation Device/Adjunct (Oral)	Orally intubated using Macintosh #3 blade after first attempt without bougie	Orally intubated using ___ blade after ___ attempt
09/ 07:30:00	Intubation View	Grade Grade 1 - Full view of Vocal Cords Laryngoscopic View. Required Cricthyoid Pressure?	Grade ___ Laryngoscopic View. Required Cricthyoid Pressure? ...
09/ 07:30:00	Atsumatic	Atsumatic Laryngoscopy	Atsumatic Laryngoscopy
09/ 07:30:00	Breath Sounds Auscultated	Equal bilateral breath sounds auscultated	Equal bilateral breath sounds auscultated
09/ 07:46:00	Central Venous/Pulmonary Artery Catheter Placed	PAC Placement w/ Introducer Sheath	PAC Placement w/ Introducer Sheath
09/ 07:48:55	Induction End	Anesthesia Induction End	Anesthesia Induction End
09/ 07:57:00	Patient Position	Patient positioned Supine	Patient positioned ...
09/ 07:57:00	Arm Position	Patient arms padded and tucked	Patient arms ...
09/ 07:59:39	Face Test Note	Baseline ACT drawn	Reuse
09/ 08:03:07	Peripheral Nerve Stimulator Placed	Posipharal nerve stimulator placed over right facial nerve	Peripheral nerve stimulator placed over ___ nerve
09/ 08:04:12	Temperature Probe Placed	Bladder temperature probe checked and value noted	... temperature probe checked and value noted
09/ 08:04:19	Temperature Probe Placed	Nasal temperature probe checked and value noted	... temperature probe checked and value noted
09/ 08:08:44	Echocardiogram Observation	TEE Findings Discussed	TEE Findings Discussed
09/ 08:08:45	Physical Observation (Misc)	Amount of Autologous Whole Blood taken off: 2 ___ Grams	Amount of Autologous Whole Blood taken off: 2 ___ Grams
09/ 08:32:00	Echocardiogram Exam	TEE Probe Placement and Interpretation	TEE Probe Placement and Interpretation
09/ 08:36:29	Compliance/Billing (Misc)	OR Brief / Surgeon Brief Performed	OR Brief / Surgeon Brief Performed
09/ 08:36:31	Categorized Event	Pre-Incision Time Out performed by OR Nurse	Pre-Incision Time Out performed by OR Nurse

# Web Case Viewer

## Measure Details

The concepts used in the measure are brought to the top above the notes section for easy review

Measure Details - BP01		
<b>Minutes below 55</b>	<b>0</b>	<b>Passed</b>
Is Valid Case	Yes	Included
Valid Measure Duration	Yes	Included
Patient Age	26	Included
Baseline MAP	101	Included
ASA Class	ASA Class 3	Included
Liver Transplant	No	Included
Lung Transplant	No	Included
Labor Epidural	No	Included
Cardiac Procedure (Open or Other)	No	Included
Anesthesia CPT	00539	Included
Any BP Taken	Yes	Included
Is Non-Operative Case	No	Included

The screenshot displays the 'Web Case Viewer' interface for a patient with Case ID 9965111-aaa5-a611-031c-0031a1a6b046. The main chart shows vital signs (Pulse Rate, SpO2, BP, SpO2, End Tidal CO2) over time. Below the chart is a staff timeline showing roles like Anesthesia, Surgery, and various staff members. On the right, the 'Measure Details - BP01' table is expanded, showing the following data:

Measure	Value	Status
Minutes below 55	0	Passed
Is Valid Case	Yes	Included
Valid Measure Duration	Yes	Included
Patient Age	26	Included
Baseline MAP	101	Included
ASA Class	ASA Class 3	Included
Liver Transplant	No	Included
Lung Transplant	No	Included
Labor Epidural	No	Included
Cardiac Procedure (Open or Other)	No	Included
Anesthesia CPT	00539	Included
Any BP Taken	Yes	Included
Is Non-Operative Case	No	Included

Below the measure details is a table with columns: Time, Mapped As, Value, and Original Variable. It contains a list of events such as 'Patient in Facility', 'Depth regular / Unlabored', 'Anesthesia Machine Checked', and 'NPO Verification'.



- Chart
- Record Search
- Administrative

**Case ID** 5 0a8c [Copy](#)  
**Institution** University of Michigan Health - Ann Arbor  
**Time** 08/; - 08/; : (8 hours, 8minutes)  
**Procedure** (Actual)MIDLINE CORONARY ARTERY BYPASS GRAFT

**Age/Sex/Race** 79 / Male / White, not of hispanic origin  
**Height/Weight** 182.9 cm / 89.4 kg  
**ASA Class** 4

**Surgical Service** Cardiac  
**Admission** Inpatient  
**Room Name** CVC-OR 04

H & P

History

- Outcomes
- Labs

Family History	General - Family History of Anesthetic Problems	(None)
History Of Present Illness	General - Surgical Diagnosis	cad, Non-ST elevation (NSTEMI) myocardial infarction, A
Past Medical History	General - Past Medical History Free Text Comments	Cancer (CMS/HCC) Chronic kidney disease Hyperlipidemia Hypertension Thyroid disease
Past Surgical History	General - Past Surgical History	Cardiac Cath Cholecystectomy Colonoscopy Cystoscopy Excisional Lipoma Prostate Biopsy Tonsillectomy and Adenoidectomy
Social History	History - Social History - General	TOBACCO: Tobacco Use: Former smoker, quit?more than five years ago? Pack years: 20

# Web Case Viewer - H & P

- Medications
- Review of Systems
- Physical Exam

# Record Search and Administrative Sections

MPOG Applications

caseviewer-test

Chart

Record Search

Administrative

H & P

Outcomes

Labs

Case ID: 90000000

Institution: University of Michigan Health System

Time: 08/20/2018 14:55

Procedure: (Active) start

Enter a search term

**Demographics**

MPOG Patient ID: c-00215x9L048c

Diagnosis: cad. Non ST elevation (NSTEMI) myocardial infarction, A

AIMS Patient ID: 5

AIMS Case ID: 1

AIMS Uncounter ID: 65

AIMS Admission Type: 1

AIMS Surgical Service: CARD

MPOG Surgical Service: Cardiac(0005)

Scheduled Time: 14:55

Date of Birth: Missing

**Professional Fee Billing**

Procedure Codes (CPT) Required	Code	Description	Type	Case Linked?	Start Time	End Time
	71015	Unknown Code	Unspecified Professional Fee		08/20/2018 00:00	08/20/2018 23:00
	93010	Unknown Code	Unspecified Professional Fee		08/20/2018 00:00	09/12/2018 11:00
	93306	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	93880	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	93800x	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	93971	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	93971x	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	99223	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	99201	Unknown Code	Unspecified Professional Fee		08/20/2018 11:00	09/12/2018 11:00
	00567	Anesthesia for direct coronary artery bypass grafting with pump oxygenator	Unspecified Professional Fee	Yes	08/20/2018 00:00	08/20/2018 11:00
	00567	Anesthesia for direct coronary artery bypass grafting with pump oxygenator	Unspecified Professional Fee	Yes	08/20/2018 00:00	08/20/2018 11:00

**Location Hierarchy**

Location: Level 1 - University of Michigan Health System

Level 2 - Ann Arbor - Main

Tag: Facility type - Acute care hospital

Level 3 - Frankel Cardiovascular Center

Level 4: CVC OR 04

Tag: Facility type - Acute care hospital

Tag: Other - Mixed use operating room

**Hospital Discharge Billing**

Diagnosis Codes (ICD-9/10) Required	Code	Description	Type	Start Time	End Time	Present on Admission
	D62	Acute posthemorrhagic anemia	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	D63.1	Anemia in chronic kidney disease	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	E03.9	Hypothyroidism, unspecified	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	E21.1	Secondary hyperparathyroidism, not elsewhere classified	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	E26.5	Hypokalemia, unspecified	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	E82.1	Hypo calcemia and hypoproteinemia	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	I81.5	Hypertensive heart disease with congestive heart failure	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	F41.9	Anxiety disorder, unspecified	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	K08.1	Rheumatic disorders of both mitral and tricuspid valves	Hospital Discharge	08/20/2018 00:00	08/20/2018 00:00	Yes
	I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 3 chronic kidney disease, or end stage renal disease	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37	Yes
	I11.4	Non ST elevation (NSTEMI) myocardial infarction	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37	Yes
	I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37	Yes

**Procedure Codes (CPT/ICD9/CD10)**

Code	Description	Type	Start Time	End Time
0210029	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
021109W	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
021033Z	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
021033Z	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
008042Z	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
0081107	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
009702Z	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37
009100Z	Unknown Code	Hospital Discharge	08/20/2018 04:06	09/12/2018 11:37

# GLU 05 Update

# GLU 05 Update

- Percentage of cases with a blood glucose >200 mg/dL with documentation of insulin treatment
- Previously identified issue: Inappropriate flagging of cases where subcutaneous insulin administered, glucose recheck > 200 mg/dL, but no additional insulin sq given within 90 minutes because still within the 2-3 hour window of peak insulin effect

# Updates

- Insulin administrations within 90 minutes after high glucose value -> PASS
- If not treated, measure will assess if insulin sq was administered within 180 minutes prior to high glucose value
  - If yes, will 'ignore' that value
  - If no, then case will be flagged
- Only applies if MPOG is receiving insulin administration data at least 4 hours before anesthesia start (ie preop holding)
- These updates will improve measure scores to reflect treatment of hyperglycemia. However, there may still be gaps in which cases with poor glycemic control are now passed or excluded
- Also updated GLU to account for sq insulin administration





**New Measure:  
BP 05**

# New Measure: BP 05

Percentage of cases where severe hypotension during anesthesia induction (defined as MAP < 55 mmHg) was avoided

*Informational Measure Only*

**Measure Time Period:** Induction Start through Induction End

**Inclusions:** All patients requiring general anesthesia

**Exclusions:**

- Patients <18 years old
- ASA 6 cases
- Baseline MAP <60 mmHG
- Labor Epidurals / Obstetric Non-Operative Procedures

**Success Criteria:** MAP > 55 mmHG throughout induction time period



**Sustainability**

# Sustainability Bundle



SUS 01 - Low FGF (3 l/min) during anesthesia maintenance

**SUS 02 - Global warming footprint of inhalational agents (maintenance)**

**SUS 03 - Global warming footprint of inhalational agents (induction)**

**SUS 04 - Low FGF (2 l/min) during anesthesia maintenance**

SUS 05 - Low FGF (weight based) during induction - PEDS

SUS 06 - Nitrous yes/no during induction - PEDS

# SUS - 02

## Efficient use of inhalational agents and nitrous oxide during anesthesia maintenance period

### Description

Percentage of cases where carbon dioxide (CO<sub>2</sub>) equivalents normalized by hour for cases receiving halogenated agents and/or nitrous oxide is less than CO<sub>2</sub> equivalents of 2% sevoflurane at 2L FGF = 2.58 kg CO<sub>2</sub>/hr during the maintenance period of anesthesia

### Inclusions

Cases where halogenated hydrocarbons and/or nitrous oxide were administered during the maintenance phase of anesthesia

### Exclusions

Cases without automated FGF data (ie those that are manually entered)

### Other Measure Details

Requires inspired agent concentrations

# How are CO2 Equivalents Derived?

$$\sum [\text{Inspired agent (\%)} \times \text{Fresh Gas Flow (L/min)}]_{1-n} \times \text{GWP}^{100}$$

Number of minutes of  
inhalational agent  
administered.

- Convert agent % and FGF → mass of agent (mols/min)
- For Nitrous %
  - a. Convert Nitrous % and FGF → Nitrous Flows (L/min)
  - b. N2O flow → mass of agent (mols/min)

Agent	Molecular Weight (g/mol)	Global Warming Potential <sup>100</sup>	Atmospheric Lifetime (years)
Isoflurane	184.5	565	3.2
Sevoflurane	200	144	1.1
Desflurane	169	2720	14
Nitrous Oxide	44	282*	114

# SUS - 03

## Exploration of environmental footprint during anesthesia induction

### Description

Carbon dioxide equivalents normalized by hour for cases receiving halogenated agents and/or nitrous oxide during the induction period of anesthesia

Informational measure only - no threshold

Inclusion and exclusion criteria same as SUS 02

# SUS 04

**Seeks to identify  
high performing  
sites**

Similar to SUS 01 except lowers success criteria from 3 l/min to 2 l/min

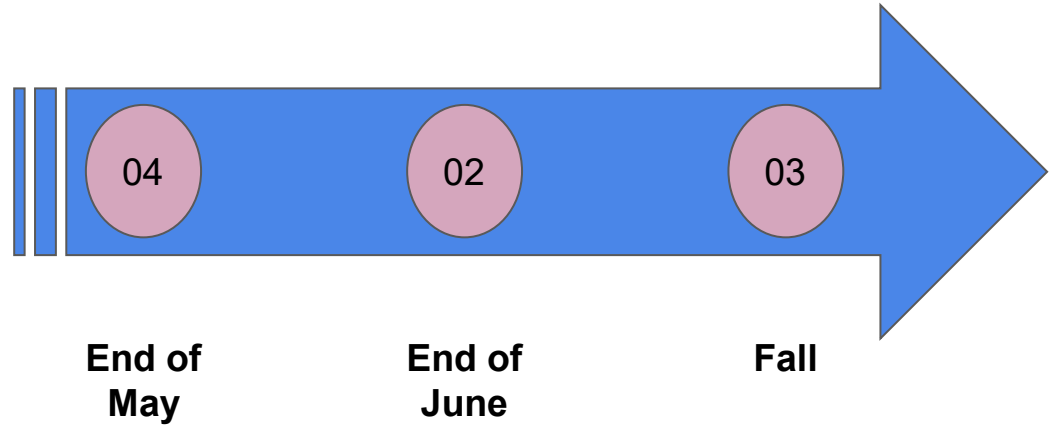
Most relevant for sites that have previously launched low FGF projects in their institutions

Continues MPOG's efforts to build best practice measures in addition to "acceptable" practice




# Timeline

## Sustainability Bundle Development







**Provider  
Feedback  
Update**

# A scalable service to improve healthcare quality through precision audit and feedback

NIH National Library of Medicine, Project #1R01LM013894-01

Zach Landis-Lewis, Allison Janda, Allen Flynn, Nirav Shah

Proposal publication: <https://www.researchprotocols.org/2022/5/e34990/>

# MPOG Precision feedback R01

## Specific aims:

1. Systematically capture recipient requirements and preferences for precision feedback messages
2. Implement and assess a demonstration precision feedback service
3. Assess the effects of a precision feedback service on care quality and engagement

# Progress to date

## Aim 1:

- 35 provider interviews, 3 design iterations of prototype messages
- Preference survey under development and coming soon

## Aim 2:

- Software development, performance testing, and integration ongoing

## Aim 3: Assess the effects of a precision feedback service

- Preparation for pilot study in 2023, cluster randomised trial in 2024



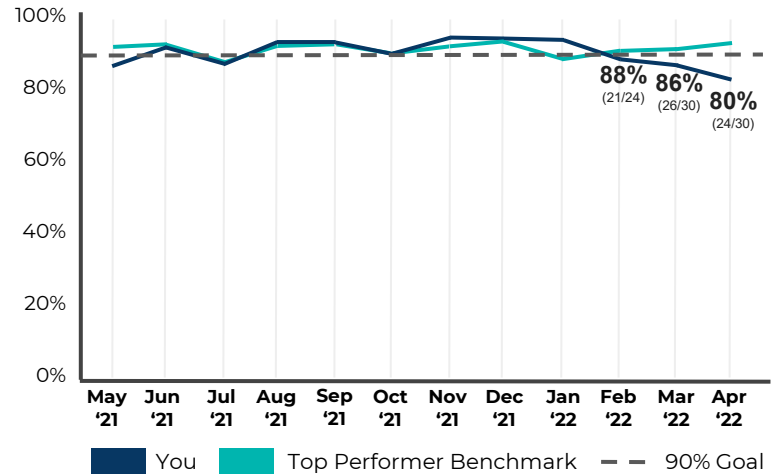
Dear Alex,

Your performance dropped below the goal for the measure: [TEMP-02: Thermoregulation Monitoring - Core Temperature](#).

More information about the rationale for the measure TEMP-02 and how it is calculated [is available here](#).

A case-by-case breakdown of your results are available [at your clinical quality dashboard](#).

Below is your complete MPOG quality performance report...

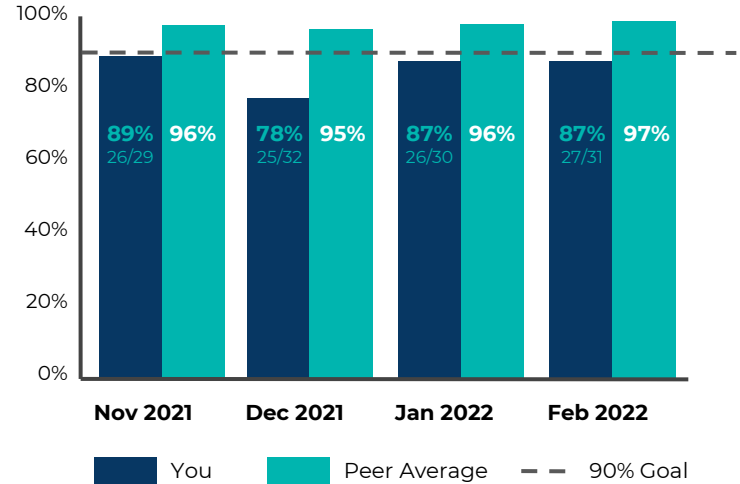


Dear Alex,

You may have an opportunity to improve your performance on measure [NMB-01: Train of Four Taken](#), which measures the percentage of cases with a documented Train of Four (TOF) after last dose of non-depolarizing neuromuscular blocker.

More information about the rationale for the measure and how it is calculated [is available here](#).

Below is your complete MPOG quality performance report...







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Dear Alex,

In the last month there was a myocardial infarction within 72 hours after one of your operative cases.

Case details can be accessed by [logging into your clinical quality dashboard](#), and information about how this case was identified [is available in this measure spec on the MPOG website](#).

Below is your complete MPOG quality performance report...



**Subcommittee  
Updates**

## Quality Committee

This group meets both virtually and in-person at collaborative meetings to review and determine the feasibility of new measure proposals and all other quality improvement efforts.

[Quality Committee](#)

**July 25th**



## Cardiac Subcommittee

This group meets virtually once per quarter to discuss the development of cardiac-specific quality improvement measures.

[Cardiac Subcommittee](#)

**August 22nd**

## Obstetric Subcommittee

This committee of anesthesiologists around the country meets quarterly via web conferencing. Topics of discussion include development of obstetric specific ASPIRE measures and modifications to general measures to accommodate OB procedures. This group provides expert opinion to inform ASPIRE work.

[Obstetrics Subcommittee](#)

**July 20th**



## Pediatrics Subcommittee

This subgroup meets virtually once per quarter to discuss modifications to the existing ASPIRE measures for the pediatric population.

[Pediatrics Subcommittee](#)

**August 17th**





**Thank You!**