

ASPIRE Updates

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New Releases

- New Measures: CARD 03 and SUS 01
- Surgical Site Infection Toolkit now available!
- CPT Prediction Tool Released...Finally!
- Now capturing Preop and PACU data for Import Manager sites!



CARD 03: Available Monday

- Troponin I elevation $>0.6\text{ng/mL}$ in high cardiac risk cases
- High Risk Surgeries
 - Intraoperative
 - Intrathoracic
 - Suprainguinal Vascular
- Comorbidities (adapted from RCRI)- primarily flagged using ICD 9/10 codes
 - Congestive Heart Failure
 - Diabetes: Uncomplicated
 - Diabetes: Complicated
 - Coronary Artery Disease
 - Chronic Kidney Disease (creatinine within 60 days >2.0)
- Inverse Measure (reported as percentage of high risk cases **WITH** elevated troponin I)

Outcome Measures

- Inverse Scores Coming!
 - Monday, July 29: CARD 03
 - Monday, August 5 for AKI 01 and CARD 02
- Will be included in the next round of emails/MOCA attestations
- Notify providers of this upcoming change



CARD-03: High Cardiac Risk Cases with High Postop Troponin: Overview

The percentage of *high cardiac risk* cases with significantly elevated postoperative troponin levels (Troponin

Overview
Opioid Management
Opioid Equivalency
Neuromuscular Monitoring
NMB-01
NMB-02
Glucose Management
GLU-01
GLU-02
Transfusion Management
TRAN-01
TRAN-02

Overview
Providers
Case Lists

Overall Performance

✓ 0.4% Target 5.0%

Counts	
CARD-03 Result	Count
Passed	242,606
Failed	1,073
Excluded	1,437,010
Total	1,680,689

Breakdown of Primary Cause		
CARD-03 Result	CARD-03 Result Reason	Case Count
Excluded	High Risk	1,166,174
Excluded	Outpatient	203,941
Excluded	Preop Troponin >= 0.01	28,572
Excluded	Anesthesia CPT	25,028
Excluded	Is Valid Case	10,100
Excluded	ASA Class	3,195
Failed	Troponin value	1,069
Failed	Documentation of Periop MI	4
Passed	Documentation of Periop MI	232,235
Passed	Troponin value	10,371
Total		1,680,689

SUS 01: Available Monday

- Mean fresh gas flow (FGF) $\leq 3\text{L}/\text{min}$, during administration of halogenated hydrocarbons and/or nitrous oxide
- Relies on Insp % halogenated agents for accurate score
- Without Insp %, flow N2O will be used, if available

➤ SUS-01: Low Fresh Gas Flow: Overview

The percentage of cases with mean fresh gas flow (FGF) equal to or less than 3L/min during administration c

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NMB-02
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GLU-01
GLU-02
Transfusion Management
TRAN-01
TRAN-02

Overview	Providers	Case Lists
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Overall Performance	
✘ 74%	Target 90%

Counts	
SUS-01 Result	Count
Passed	242,772
Failed	85,648
Excluded	1,336,126
	1,664,546

Breakdown of Primary Cause		
SUS-01 Result	SUS-01 Result Reason	Case Count
Excluded	Total Duration of Gas Flow/Agent Ov...	869,839
Excluded	Duration of Maintenance Period (>= ...	439,824
Excluded	Is Valid Case	15,872
Excluded	Incidence of Manually Entered Gases (10,587
Excluded	Mean Fresh Gas Flow (4
Failed	Mean Fresh Gas Flow (85,643
Failed	Total Duration of Gas Flow/Agent Ov...	4
Failed	Duration of Maintenance Period (>= ...	1
Passed	Mean Fresh Gas Flow (242,772
		1,664,546

Avoiding Surgical Site Infection Toolkit: Available Now!

- Topics include:

- Antimicrobial Prophylaxis
- Normothermia
- Glycemic Control
- Fluid Management
- Oxygenation
- Hair Removal
- Operating Room Traffic
- Skin Prep



Avoiding Respiratory Complications Toolkit

This toolkit encompasses ASPIRE Measures PUL01, NMB01, and NMB02.

[Click Here](#)



Perioperative Transfusion Stewardship Toolkit

This toolkit encompasses ASPIRE Measures TRAN 01 and TRAN 02 with a focus on best transfusion practices in cardiac, orthopedic, and general surgery.

[Click Here](#)



Surgical Site Infection Toolkit

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

[Click Here](#)

Avoiding Surgical Site Infections



RECOMMENDATIONS FOR PERIOPERATIVE ANESTHESIA: *Avoiding Surgical Site Infections*

PREOPERATIVE CLINIC

HOSPITAL PREOP

INTRAOPERATIVE

PACU

Preoperative Bathing (Soap or CHG)

Labs (Albumin, HgbA1C, MRSA)

Education (Smoking cessation, nutrition, exercise)

Perioperative Glucose Control (< 180 MG/DL)

Normothermia (active warming, core 36.0 °C)

Hair Removal (clippers)

Skin Antiseptic

Antibiotics*

Fluid Management

*Antibiotics:

- **Selection:** Administer antimicrobial prophylaxis according to evidence-based standards and guidelines
- **Dosing:** Weight-based dosing, specifically in obese patients
- **Timing:** Begin administration within 1 hour before incision (within 2 hours for vancomycin and fluoroquinolones)
- **Re-dosing:** If procedure duration >2x antibiotic half-life, or if EBL >1500 mL
- **Duration:** Antimicrobial within 24h post-surgery, even in the presence of drains



Anesthesia CPT Prediction in Measures

- Machine learning algorithm that takes procedure text and predicts the top 3 anesthesia CPT codes
- Still need sites to submit CPT codes once available
- **Goal:** Be less dependent on the billing codes to send accurate measure feedback

Condition	Condition Value	Result
Is Valid Case	Yes	Included
Patient Age	57	Included
Baseline MAP	80	Included
ASA Class	ASA Class 3	Included
Labor Epidural	No	Included
Anesthesia CPT	00300 (Predicted)	Included
Anesthesia CPT	00320 (Predicted)	Included
Anesthesia CPT	00400 (Predicted)	Included
Any BP Taken	Yes	Included
Minutes below 55	30	Failed
Time of Low MAP	20:13:00 (Duration: 1, MAP: 54)	Info
Time of Low MAP	20:19:00 (Duration: 1, MAP: 53)	Info
Time of Low MAP	17:50:00 (Duration: 1, MAP: 51)	Info
Time of Low MAP	19:25:00 (Duration: 1, MAP: 41)	Info
Time of Low MAP	19:17:00 (Duration: 1, MAP: 53)	Info
Time of Low MAP	20:20:00 (Duration: 1, MAP: 53)	Info
Time of Low MAP	21:04:00 (Duration: 1, MAP: 45)	Info
Time of Low MAP	21:08:00 (Duration: 1, MAP: 49)	Info
Time of Low MAP	18:27:00 (Duration: 1, MAP: 35)	Info
Time of Low MAP	21:01:00 (Duration: 1, MAP: 38)	Info

Displaying 1 to 20 of 20.

CPT Prediction Caveats



- Algorithm for Selecting from Top 3 Predicted Codes:
 - If difference in predicted confidence interval is $>1.6x$ between 1st and 2nd code: Use 1st code only
For example: (**01922**: 70%, 00700: 20%, 01936: 10%)
 - If difference between predicted 1st and 3rd code is $>1.6x$, will use 1st and 2nd code only
 - For labor epidural and c-sections, will use 1st predicted code only
- CPT Prediction: Better than no codes but NOT perfect
 - Machine continues to ‘learn’ as codes are submitted
 - Sites will provide us feedback that will allow us to manually improve the algorithms

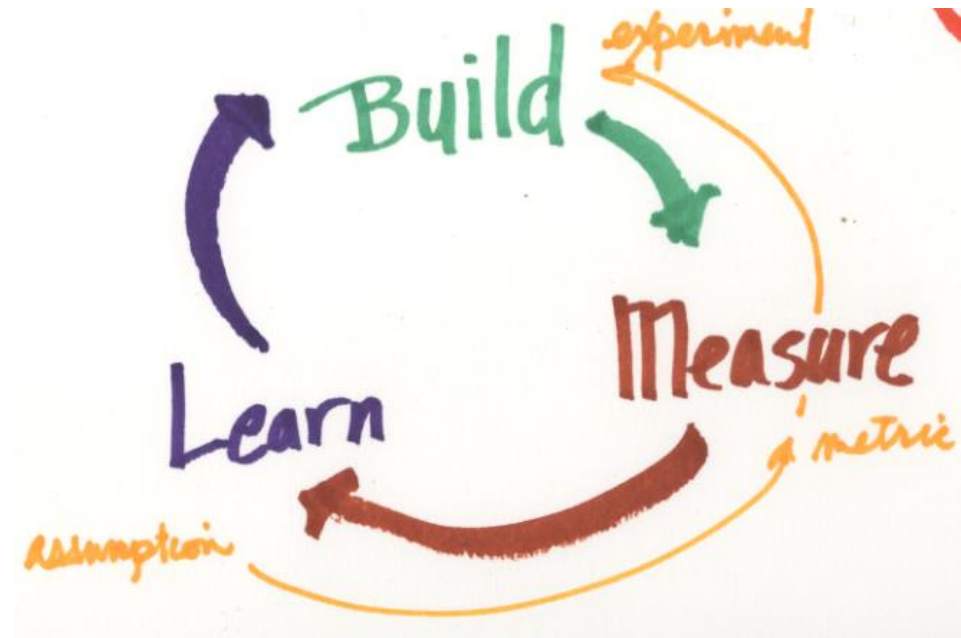
Preop and PACU Data Available!

- Physiologic data
- Meds/Fluids
- PONV
- Level of Consciousness
- Nursing Documentation: Braden Scores/Fall Risk
- PACU Times (Phase 1 In/Out, Phase 2 In/Out, PACU Care Complete, Aldrete Scores)
- Sleep Apnea Preop Assessment
- Some postoperative outcomes (reintubation, cardiac arrest, death, anaphylaxis, PDPH, etc)*

*Requires some data cleaning: lots of documentation indicating 'Outcome: No'

Future Development

- PONV 03: Incidence of PONV in PACU- **In progress**
- Glycemic management: GLU 01 and 02 expand to preop/PACU
- Respiratory complications in PACU
- Other ideas?
 - Opioid use in PACU?
 - Antibiotic prophylaxis/timing?
 - What projects do you need data for?



QUESTIONS?



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