DEVELOPING A QUALITY PROGRAM IN A DEPARTMENT OF ANESTHESIOLOGY

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SAAA 2012

DISCLOSURE
I am employed by Spectrum Medical Group which markets a QA product, FIDES.

LEARNING OBJECTIVES

Participants will better understand the following:

1) Approaches to building, maintaining, and improving a Quality Management System (QMS).
2) Challenges in separating the QMS from provider privileging.
3) Resources required to develop and maintain a QMS.

QUESTIONS FOR THE AUDIENCE
YES/NO (true/false)

- I see data today on my performance relative to an average
- I am familiar with Det Norske Veritas (DNV)
- I see my OPPE data every 6 months

Building a QMS
Frame of Reference

John W. Allyn, M.D.

Maine Medical Center

- 40 Anesthetizing Locations
- 20 Anesthesiology Residents (5 are interns)
- 46 CRNAs (3 SRNAs)
- Anesthesiologists employed by Spectrum Medical group (20 assigned each day to MMC locations)

W. Edwards Deming

"Learning is not
compulsory
neither is survival."

Building a Quality Management System
Existing Resources

- ASA and AQI:
  - Manual for Anesthesia Department Organization and Management: https://ecommerce.asahq.org/p-154-madom-2010-manual-for-anesthesia-department-organization-and-management.aspx
  - AQI: http://aqihq.org/startingqualitymanagementprogram.aspx
- DNV – ISO 9001
  - DNV: http://www.dnvusa.com/
  - ISO 9001: http://www.iso.org/iso/qmp_2012.pdf

DEVELOPING A QUALITY PROGRAM IN A DEPARTMENT OF ANESTHESIOLOGY

Outline

- Guiding Principles
- QMS Structure at MMC
- Meaningful use
- How we capture and analyze data
- Examples
- Future Directions

Building a QMS:
Why are Principles Needed

- Demands for Data:
  - Regulatory
  - Common request: who's the best ___?
- Self reporting is part of most QI systems - "defects are treasures"
- Protect providers: dialogue required to improve system performance
- Measurement along with timely and effective feedback to providers takes resources

Principles for Quality Improvement

Guiding Principles

I. We're Human
II. Integrity/Trust
III. Separating QI from OPPE (privileging)
IV. Focus on systems
V. QI takes resources
VI. Education about Measurement

Department Leadership
Guiding Principles I

Human Error:

"The more predictable varieties of human fallibility are rooted in the essential and adaptive properties of human cognition. They are the penalties that must be paid for our remarkable ability the debit side of the cognitive 'balance sheet', where each entry also carries significant advantages."

Reason J. *Human Error* Cambridge University Press 1990 p17.

Guiding Principle II: INTEGRITY – TRUST
MAINTAINING A CULTURE THAT VALUES QA

- Data protection:
  - Protection of self-reported data
  - Patient Safety Organization (PSO)
- Professionalism – Communication
- Clean data drives a dialogue – standardization
- M+M discussions are open and avoid judgments; focus is on improvements to be made in the future (subtle difference)
- Feedback is clear, respectful and timely

WHAT IS A PSO?
PSO = (PATIENT SAFETY ORGANIZATION)

The Patient Safety and Quality Improvement Act of 2005 (Patient Safety Act) authorized the creation of PSOs to improve quality and safety by reducing the incidence of events that adversely affect patients. To implement the Patient Safety Act, the Department of Health and Human Services' (HHS) Agency for Healthcare Research and Quality (AHRQ) published the Patient Safety and Quality Improvement Final Rule (Patient Safety Rule).

Department Leadership Guiding Principles III

Separating QI from OPPE (privileging)

Ongoing Professional Practice Evaluation

What is OPPE?

Ongoing Professional Practice Evaluation
OPPE

Privileging

The Joint Commission (TJC) Medical Staff Chapter – not all about docs

MS.08.01.03

Element of Performance (EP) 1

A - scoring system, either exists or it doesn't

D- documentation required

There is a clearly defined process in place that facilitates the evaluation of each provider's professional practice

Separating QI from OPPE (privileging)
Ongoing Professional Practice Evaluation

Why would OPPE threaten the QMS?

- OPPE requires data
- The only data you have may be in your QMS, or potentially would reside in your QMS.
- QMS data use for OPPE may compromise the performance of your QMS

Separating QI from OPPE (privileging)
Lessons From Aviation

Safety Information Should Be Protected and Shared

- The FAA's Flight Operational Quality Assurance (FOQA) and other safety risk management programs are based on trust.

- Keeping this data confidential is the key to acquiring the information.

The US National Civil Aviation Review Commission
Chaired by Senator Norman Mineta
"Avoiding Aviation Gridlock & Reducing the Accident Rate,"
December 1997.

Separating QI from OPPE (privileging)
The US National Civil Aviation Review Commission

"The system must not be threatening in any way to the sources of the data or the insights from such disclosure will be lost. If the system is perceived to be punitive or threatening at any level, it will be doomed to fail."

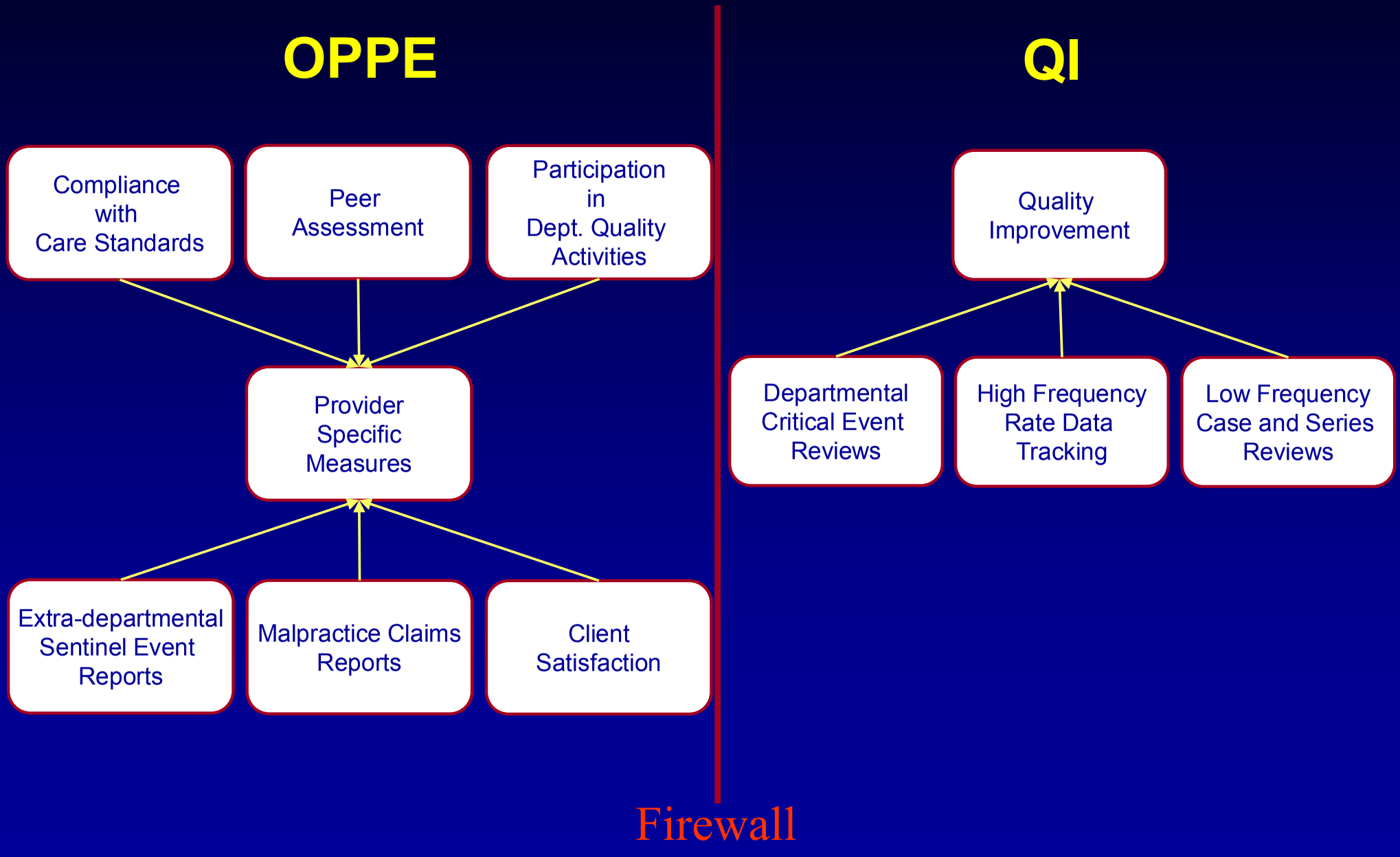
Separating QI from OPPE (privileging)
IOM – *To Err is Human*

National Academy Press 2000 p10

"The committee believes there is a role both for mandatory, public reporting systems and voluntary, confidential reporting systems.

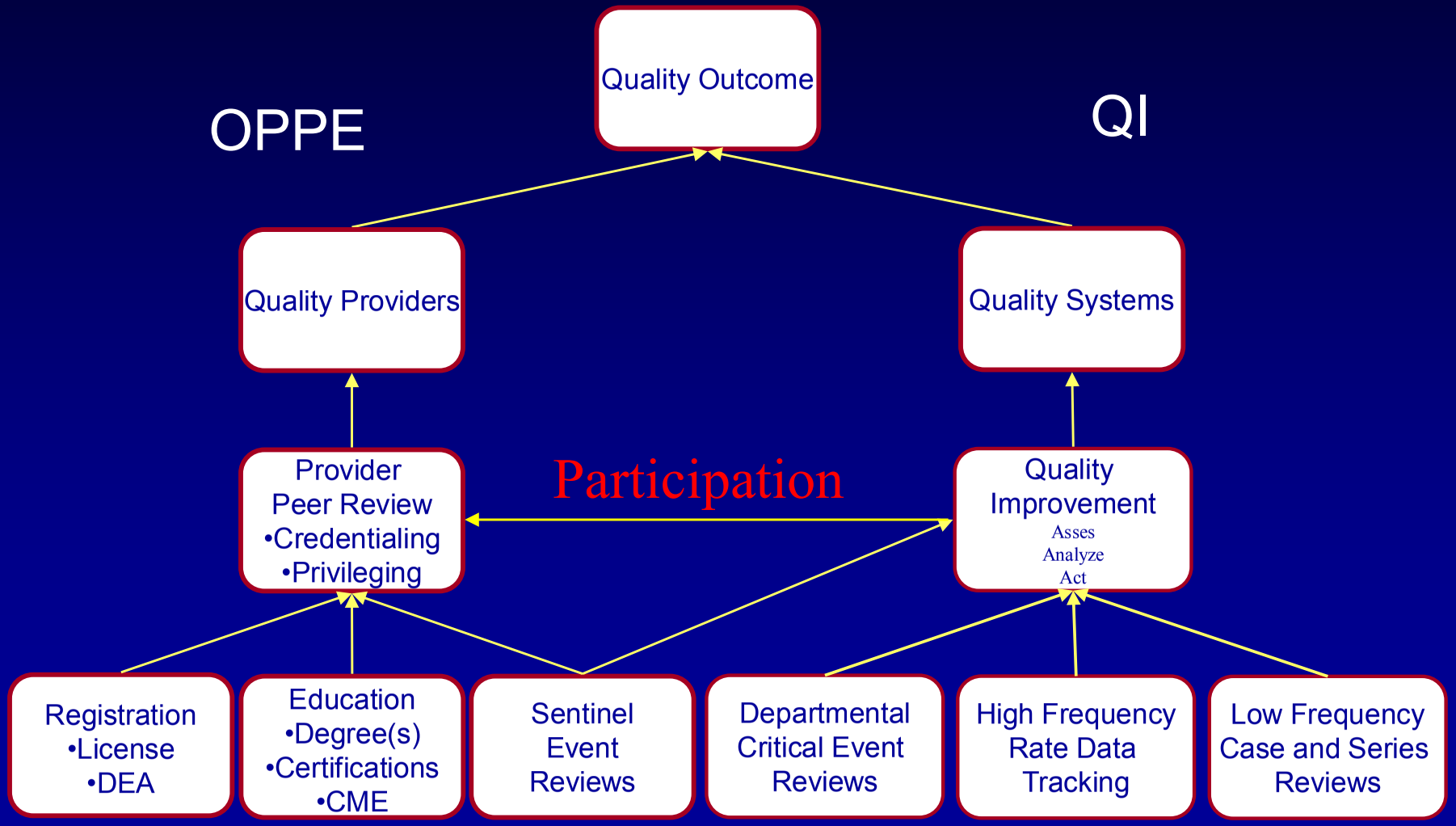
However, because of their distinct purposes, such systems should be operated and maintained separately."

Separating QI from OPPE (privileging)
Maine Medical Center



Separating QI from OPPE (privileging)
Maine Medical Center Today

Connecting Quality Providers to QI

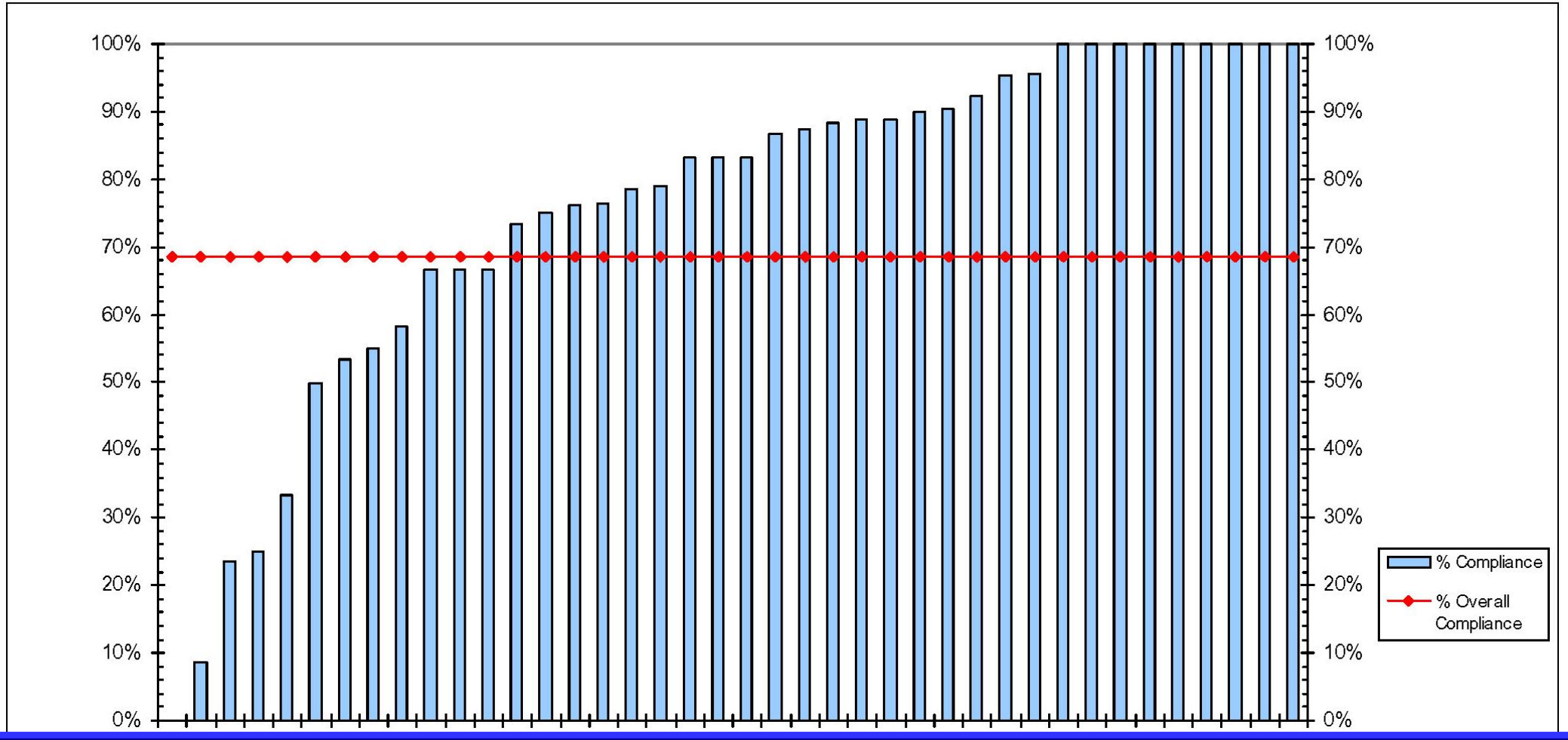


GUIDING PRINCIPLES: NOT FOR OPPE OR FPPE

SEPARATING YOUR QMS FROM PROVIDER PRIVILEGING

Data Form Completion Rate - Physician Only

Out of 436 returned data forms, 319 were complete = 73.2% completion rate



Department Leadership Guiding Principles IV

Focus on systems

- This is not about weeding out "bad apples”; focus is on improving system performance.

- **W. Edwards Deming:** 94% of the potential for improvement resides in system performance, only 6% is special (one busted machine or human error).

Deming WE. Out of Crisis. Cambridge, MA: MIT Press; 2000. p315

Guiding Principles V:
QI takes Resources

- Physician and administrator time
- Money (forms, software, etc.)
- There is a return on this investment

Business Plan for QI
IOM: *To Err is Human*

National Academy Press 2000 *p100*

"Reporting systems without adequate resources for analysis and follow-up action are not useful.
Reporting without analysis or follow-up may even be counterproductive in that it weakens support for constructive responses and is viewed as a waste of resources."

- MMC examples (RCAs: ACGME's NAS)

Guiding Principles VI: Ongoing Education About Measurement

- Definitions
- Risk Adjustment
- Avoidance of Provider-Specific Outcome Measures
- Possible Exception to Above: Patient Satisfaction

DEVELOPING A QUALITY PROGRAM IN A DEPARTMENT OF ANESTHESIOLOGY

MMC QI Structure

- Existence, connectivity, coordination and alignment of departmental QI committees is an opportunity – identified, not solved.
- Interface with Patient Safety and Risk Management
- Reporting mechanism for patients, families and providers

DEVELOPING A QUALITY PROGRAM IN A DEPARTMENT OF ANESTHESIOLOGY

History

- Not about measurement or arguing about what to measure
- Not about generating reports (feedback)
- It is about team/culture and resources
- Dialogue about reducing variability
- Today – 500,00 cases

ANESTHESIOLOGY QI COMMITTEE
MONTHLY MEETINGS

- Anesthesiologists (10 with subspecialty representation)
- Anesthesiology resident
- CRNA (2)
- Periop Nursing (3: ASU, OR, PACU)
- Outpatient Periop Nursing (2)
- Floor nursing (1)
- Anesthesia technicians (2)
- Preadmission Nursing (1)
- Administrative support

(physician and administrative support time)

Critical Incident Committee
Subcommittee of QI Committee

- ✓ Anesthesiologists
- ✓ Anesthesiology residents (3)
- ✓ CRNAs (2)
- ✓ New hires (required attendance)
- ✓ Administrative Support

Open meeting for department members

BUILDING A QMS:
METHOD OF DATA COLLECTION

- Paper System
  (includes PACU and post-op phone calls – HCAHPS)
  - IntraOp Compliance
  - PACU Compliance
- Moving to EPIC – database external to patient record

General Data Form

FRONT

Deleted Spinal/Regional section - This will be obtained from EPIC in the future

Airway Management changed to FINAL Airway Management – new listings added

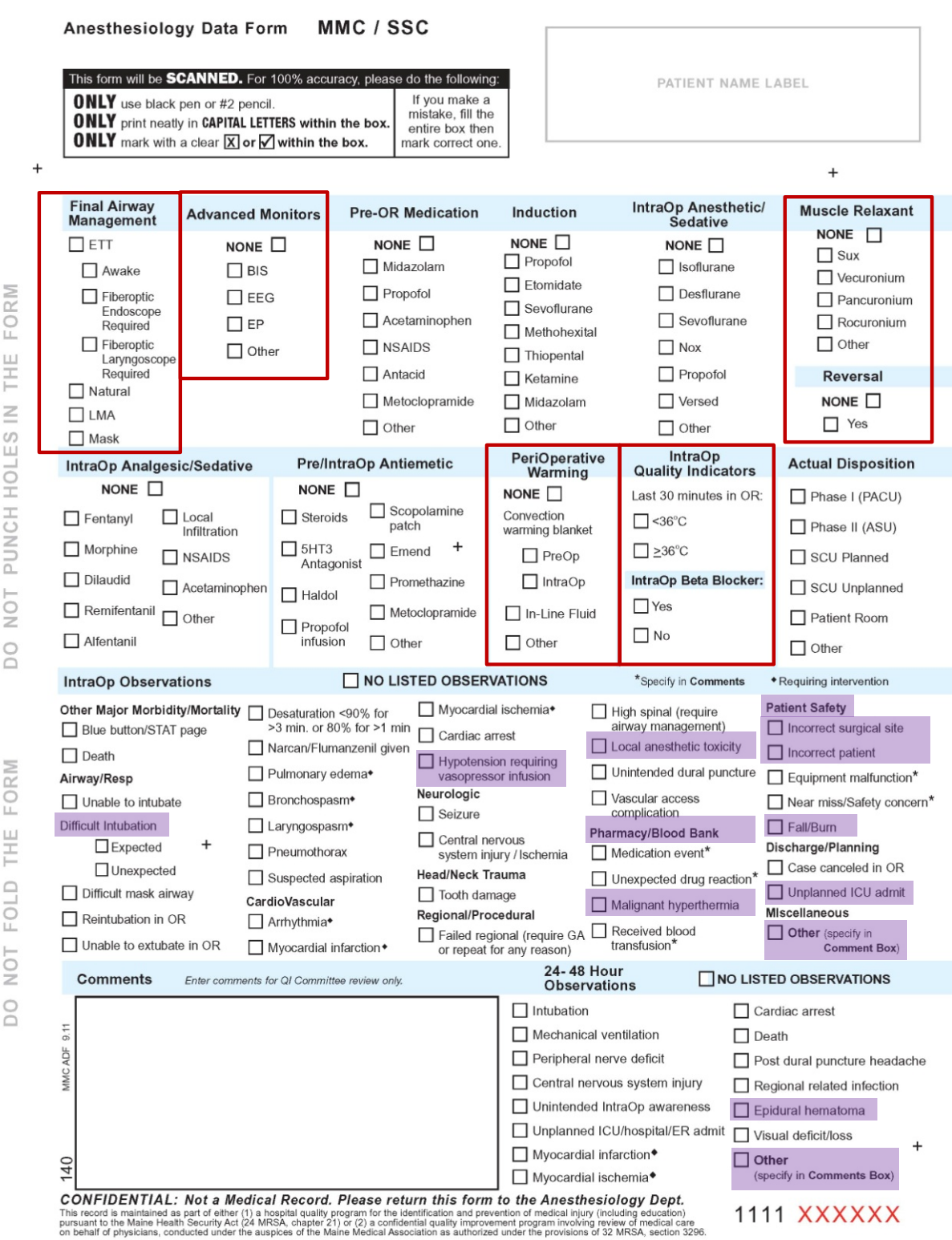
Monitors becomes ADVANCED Monitors

Muscle Relaxant and Reversal moved to top row

IntraOp Warming is now PeriOp Warming

IntraOp Quality Indicators – a new section asking for temps taken in last 30 minutes of OR as well as IntraOp Beta Blockers

IntraOp and 24-48 Hour Observations – new listings to keep up with National Efforts (ABG and AQI)



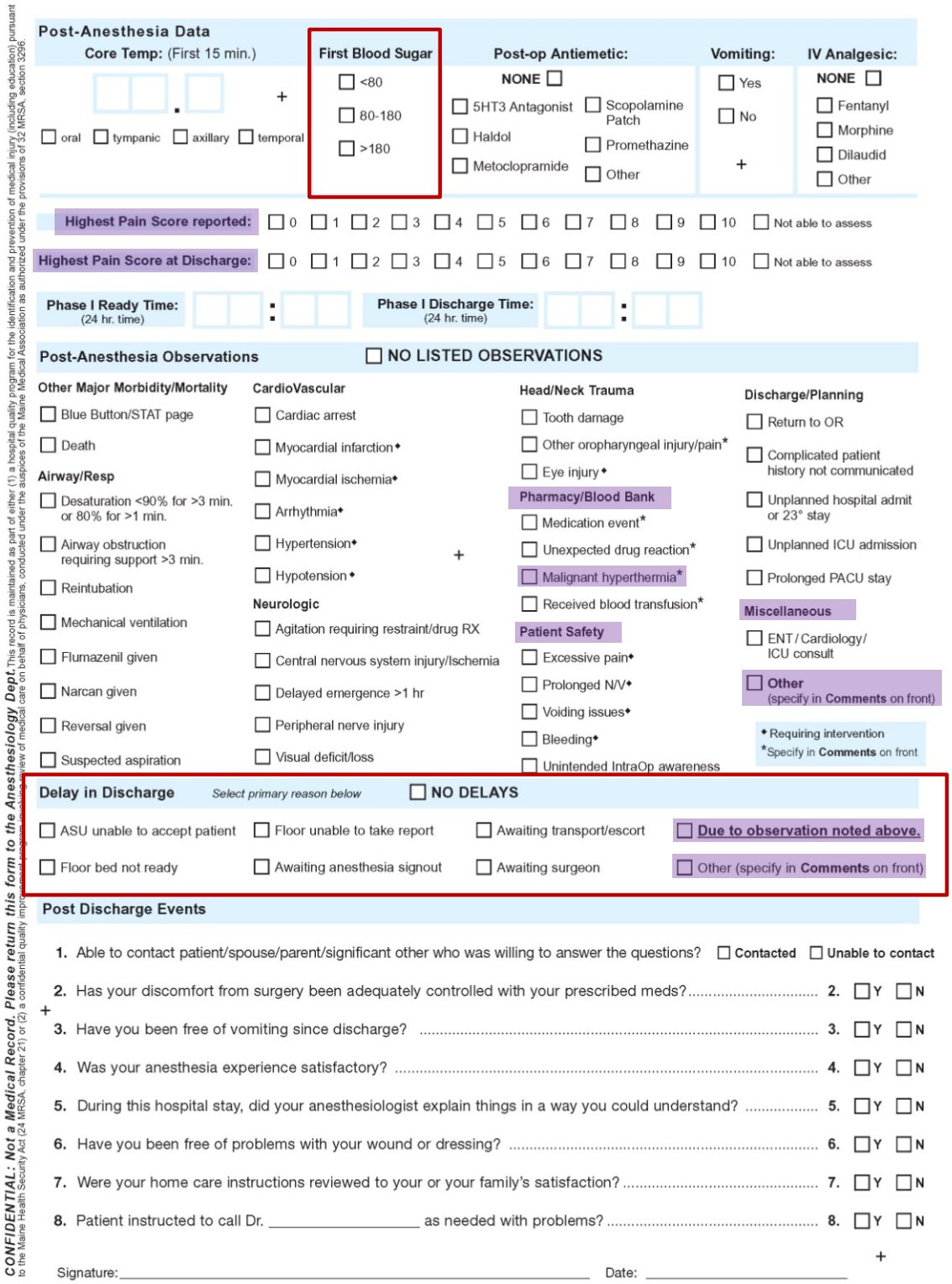
General Data Form
Back

Post Anesthesia Data section revisions:

- Checkboxes added for **First Blood Sugar** in order to improve data capture by reducing the amount of handwriting.
- VAS wording changed to read **Highest Pain Score Reported** and **Highest Pain Score at Discharge.**

Post Anesthesia Observations - new listings added to keep up with National Efforts (ABG and AQI)

Delay in Discharge – moved to now be after Post Anesthesia Observations.



Post-Anesthesia Data

Core Temp: (First 15 min.) . + ☐ oral ☐ tympanic ☐ axillary ☐ temporal

First Blood Sugar: ☐ <80 ☐ 80-180 ☐ >180

Post-op Antiemetic: NONE ☐ ☐ 5HT3 Antagonist ☐ Haldol ☐ Metoclopramide ☐ Scopolamine Patch ☐ Promethazine ☐ Other

Vomiting: ☐ Yes ☐ No +

IV Analgesic: NONE ☐ ☐ Fentanyl ☐ Morphine ☐ Dilaudid ☐ Other

Highest Pain Score reported: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Not able to assess

Highest Pain Score at Discharge: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ Not able to assess

Phase I Ready Time: (24 hr. time) : Phase I Discharge Time: (24 hr. time) :

Post-Anesthesia Observations ☐ NO LISTED OBSERVATIONS

Other Major Morbidity/Mortality
☐ Blue Button/STAT page
☐ Death

Airway/Resp
☐ Desaturation <90% for >3 min. or 80% for >1 min.
☐ Airway obstruction requiring support >3 min.
☐ Reintubation
☐ Mechanical ventilation
☐ Flumazenil given
☐ Narcan given
☐ Reversal given
☐ Suspected aspiration

CardioVascular
☐ Cardiac arrest
☐ Myocardial infarction♦
☐ Myocardial ischemia♦
☐ Arrhythmia♦
☐ Hypertension♦
☐ Hypotension♦ +

Neurologic
☐ Agitation requiring restraint/drug RX
☐ Central nervous system injury/Ischemia
☐ Delayed emergence >1 hr
☐ Peripheral nerve injury
☐ Visual deficit/loss

Head/Neck Trauma
☐ Tooth damage
☐ Other oropharyngeal injury/pain*
☐ Eye injury♦

Pharmacy/Blood Bank
☐ Medication event*
☐ Unexpected drug reaction*
☐ Malignant hyperthermia*
☐ Received blood transfusion*

Patient Safety
☐ Excessive pain♦
☐ Prolonged N/V♦
☐ Voiding issues♦
☐ Bleeding♦
☐ Unintended IntraOp awareness

Discharge/Planning
☐ Return to OR
☐ Complicated patient history not communicated
☐ Unplanned hospital admit or 23° stay
☐ Unplanned ICU admission
☐ Prolonged PACU stay

Miscellaneous
☐ ENT / Cardiology / ICU consult
☐ Other (specify in **Comments** on front)

♦ Requiring intervention
*Specify in **Comments** on front

Delay in Discharge *Select primary reason below* ☐ NO DELAYS

☐ ASU unable to accept patient ☐ Floor unable to take report ☐ Awaiting transport/escort ☐ Due to observation noted above.
☐ Floor bed not ready ☐ Awaiting anesthesia signout ☐ Awaiting surgeon ☐ Other (specify in **Comments** on front)

Post Discharge Events

1. Able to contact patient/spouse/parent/significant other who was willing to answer the questions? ☐ Contacted ☐ Unable to contact
2. Has your discomfort from surgery been adequately controlled with your prescribed meds? ..... 2. ☐ Y ☐ N
3. Have you been free of vomiting since discharge? ..... 3. ☐ Y ☐ N
4. Was your anesthesia experience satisfactory? ..... 4. ☐ Y ☐ N
5. During this hospital stay, did your anesthesiologist explain things in a way you could understand? ..... 5. ☐ Y ☐ N
6. Have you been free of problems with your wound or dressing? ..... 6. ☐ Y ☐ N
7. Were your home care instructions reviewed to your or your family's satisfaction? ..... 7. ☐ Y ☐ N
8. Patient instructed to call Dr. _____ as needed with problems? ..... 8. ☐ Y ☐ N

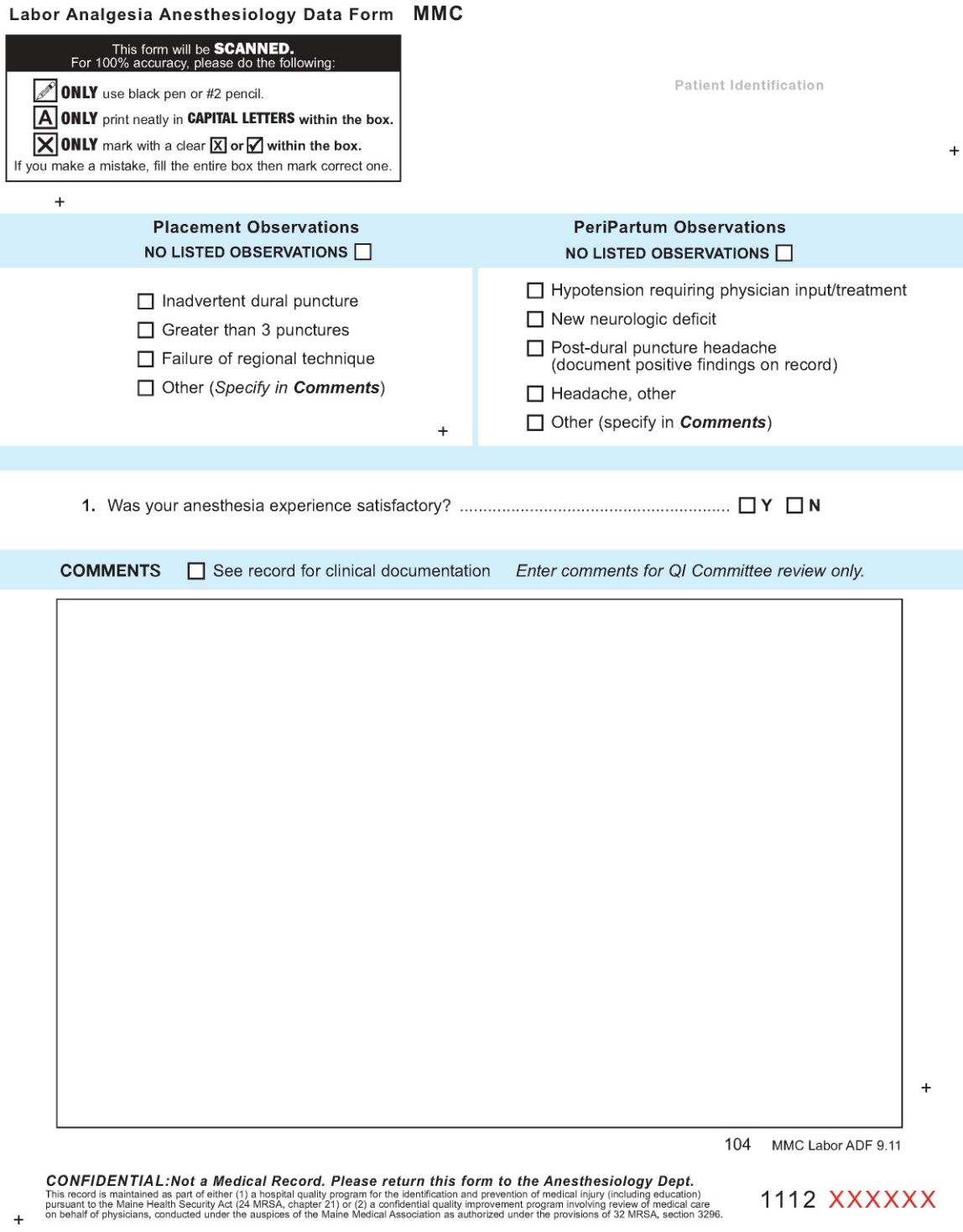
Signature: _____ Date: _____

CONFIDENTIAL: Not a Medical Record. Please return this form to the Anesthesiology Dept. This record is maintained as part of either (1) a hospital quality program for the identification and prevention of medical injury (including education) pursuant to the Maine Health Security Act (24 MRSA, chapter 21) or (2) a confidential quality improvement program for the review of medical care on behalf of physicians, conducted under the auspices of the Maine Medical Association as authorized under the provisions of 32 MRSA, section 3296.

DO NOT FOLD THE FORM DO NOT PUNCH HOLES IN THE FORM

Labor Data Form

- This is a one-sided form with concentration on Placement and Peri-Partum Observations
- It also has one follow-up question regarding patient satisfaction as well as a large area for any comments.



Labor Analgesia Anesthesiology Data Form **MMC**

This form will be **SCANNED.**
For 100% accuracy, please do the following:

- **ONLY** use black pen or #2 pencil.
- **ONLY** print neatly in **CAPITAL LETTERS within the box.**
- **ONLY** mark with a clear ☒ or ☑ **within the box.**

If you make a mistake, fill the entire box then mark correct one.

Patient Identification

Placement Observations
NO LISTED OBSERVATIONS ☐

- ☐ Inadvertent dural puncture
- ☐ Greater than 3 punctures
- ☐ Failure of regional technique
- ☐ Other (*Specify in* ***Comments***)

PeriPartum Observations
NO LISTED OBSERVATIONS ☐

- ☐ Hypotension requiring physician input/treatment
- ☐ New neurologic deficit
- ☐ Post-dural puncture headache (document positive findings on record)
- ☐ Headache, other
- ☐ Other (specify in ***Comments***)

1. Was your anesthesia experience satisfactory? ..... ☐ Y ☐ N

COMMENTS ☐ See record for clinical documentation *Enter comments for QI Committee review only.*

104 MMC Labor ADF 9.11

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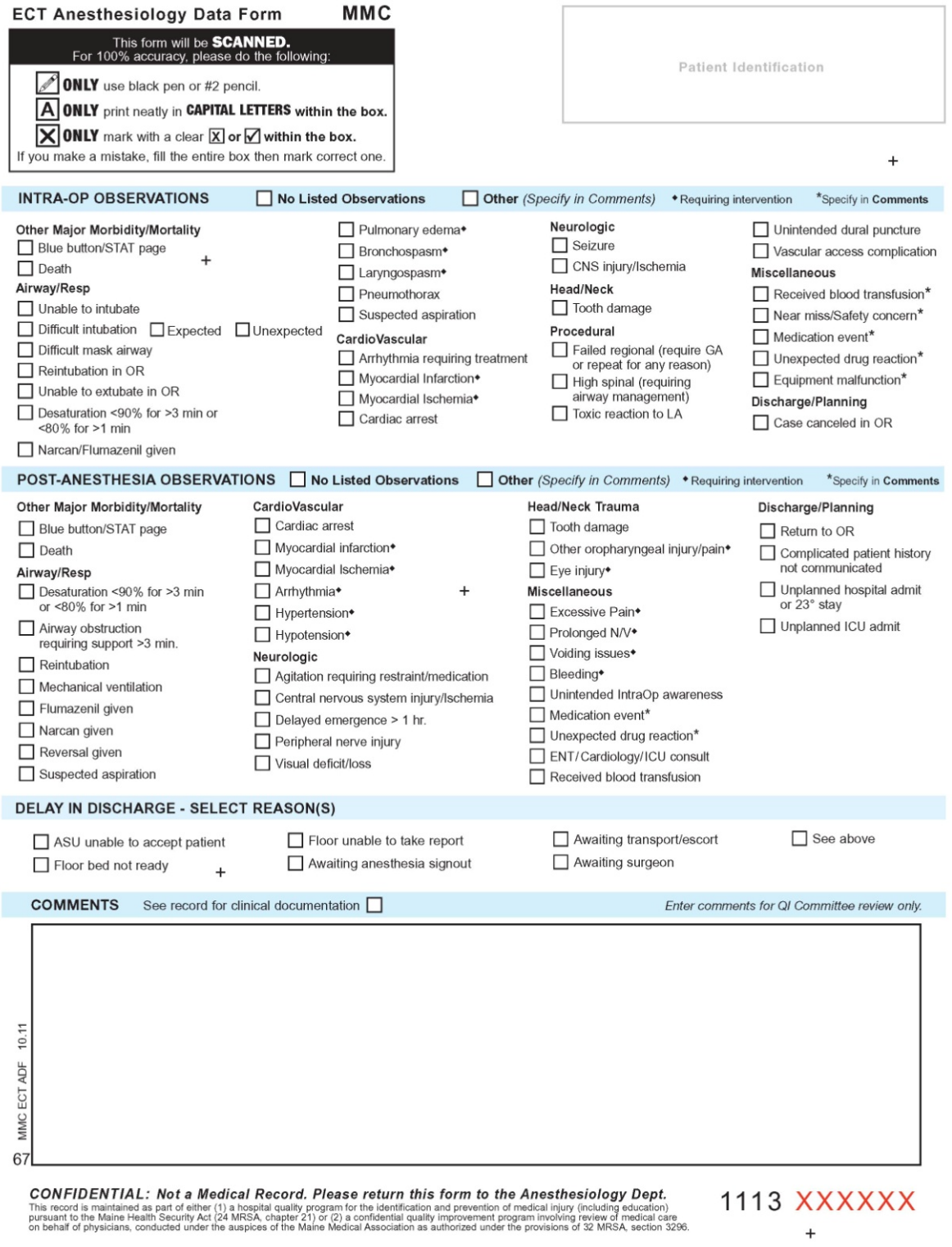
1112 XXXXXX

ECT Data Form

- This is a one-sided form with concentration on IntraOp and Post-Anesthesia Observations as well as any Delays in Discharge.
- It also has a large area for comments.



ECT Anesthesiology Data Form MMC

This form will be **SCANNED.**
For 100% accuracy, please do the following:

- **ONLY** use black pen or #2 pencil.
- **ONLY** print neatly in **CAPITAL LETTERS within the box.**
- **ONLY** mark with a clear ☒ or ☑ **within the box.**

If you make a mistake, fill the entire box then mark correct one.

Patient Identification

INTRA-OP OBSERVATIONS ☐ No Listed Observations ☐ Other *(Specify in Comments)* ◆Requiring intervention *Specify in **Comments**

Other Major Morbidity/Mortality
☐ Blue button/STAT page
☐ Death

Airway/Resp
☐ Unable to intubate
☐ Difficult intubation ☐ Expected ☐ Unexpected
☐ Difficult mask airway
☐ Reintubation in OR
☐ Unable to extubate in OR
☐ Desaturation <90% for >3 min or <80% for >1 min
☐ Narcan/Flumazenil given
☐ Pulmonary edema◆
☐ Bronchospasm◆
☐ Laryngospasm◆
☐ Pneumothorax
☐ Suspected aspiration

CardioVascular
☐ Arrhythmia requiring treatment
☐ Myocardial Infarction◆
☐ Myocardial Ischemia◆
☐ Cardiac arrest

Neurologic
☐ Seizure
☐ CNS injury/Ischemia

Head/Neck
☐ Tooth damage

Procedural
☐ Failed regional (require GA or repeat for any reason)
☐ High spinal (requiring airway management)
☐ Toxic reaction to LA
☐ Unintended dural puncture
☐ Vascular access complication

Miscellaneous
☐ Received blood transfusion*
☐ Near miss/Safety concern*
☐ Medication event*
☐ Unexpected drug reaction*
☐ Equipment malfunction*

Discharge/Planning
☐ Case canceled in OR

POST-ANESTHESIA OBSERVATIONS ☐ No Listed Observations ☐ Other *(Specify in Comments)* ◆Requiring intervention *Specify in **Comments**

Other Major Morbidity/Mortality
☐ Blue button/STAT page
☐ Death

Airway/Resp
☐ Desaturation <90% for >3 min or <80% for >1 min
☐ Airway obstruction requiring support >3 min.
☐ Reintubation
☐ Mechanical ventilation
☐ Flumazenil given
☐ Narcan given
☐ Reversal given
☐ Suspected aspiration

CardioVascular
☐ Cardiac arrest
☐ Myocardial infarction◆
☐ Myocardial Ischemia◆
☐ Arrhythmia◆
☐ Hypertension◆
☐ Hypotension◆

Neurologic
☐ Agitation requiring restraint/medication
☐ Central nervous system injury/Ischemia
☐ Delayed emergence > 1 hr.
☐ Peripheral nerve injury
☐ Visual deficit/loss

Head/Neck Trauma
☐ Tooth damage
☐ Other oropharyngeal injury/pain◆
☐ Eye injury◆

Miscellaneous
☐ Excessive Pain◆
☐ Prolonged N/V◆
☐ Voiding issues◆
☐ Bleeding◆
☐ Unintended IntraOp awareness
☐ Medication event*
☐ Unexpected drug reaction*
☐ ENT/Cardiology/ICU consult
☐ Received blood transfusion

Discharge/Planning
☐ Return to OR
☐ Complicated patient history not communicated
☐ Unplanned hospital admit or 23° stay
☐ Unplanned ICU admit

DELAY IN DISCHARGE - SELECT REASON(S)

☐ ASU unable to accept patient
☐ Floor bed not ready
☐ Floor unable to take report
☐ Awaiting anesthesia signout
☐ Awaiting transport/escort
☐ Awaiting surgeon
☐ See above

COMMENTS See record for clinical documentation ☐ *Enter comments for QI Committee review only.*

MMC ECT ADF 10.11

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1113 XXXXXX

Critical Incident Committee

TEMPLATE

	SUPPLIES
Consider the Following:	• *Are the right supplies available in good condition?* • *Are supplies used effectively?* • *Are enough supplies always available when needed?* • *How often are supplies unavailable?*
Recommendation for solution (I.E. Fail-Safe, Warning system) :	

	KNOWLEDGE
Consider the Following:	• *Are all staff aware of how to monitor or prevent harm?* • *Do staff apply this knowledge effectively and consistently?* • *What my prevent staff from gaining or retraining this knowledge?* • *Is training performed consistently?*
Recommendation for solution (I.E. Fail-Safe, Warning system) :	

	EQUIPMENT
Consider the Following:	• *Is the equipment used?* • *Are all pieces of equipment in good condition or quality?* • *Is the quality of equipment monitored consistently?* • *Is equipment always available at the time or in the quantity needed?*
Recommendation for solution (I.E. Fail-Safe, Warning system) :	

	FACILITIES
Consider the Following:	• *Are facilities in appropriate condition or quality?* • *Are facilities monitored consistently?* • *Could facilities or infrastructure be improved?* • *What factors can impact the effectiveness of facilities?*
Recommendation for solution (I.E. Fail-Safe, Warning system) :	

	STAFF RESOURCES
Consider the Following:	• *Are enough staff available for monitoring?* • *Are appropriate staffing ratios maintained?* • *Do staff have adequate time and resources to complete duties?*
Recommendation for solution (I.E. Fail-Safe, Warning system) :	

OPPORTUNITIES TO PREVENT :

Reviewed By Critical Incident Committee On :	

Recommend Report to Risk Management for EIT Review?	Yes		No	

CRITICAL INCIDENT COMMITTEE RECOMMENDATION:

WHY BUILD A QMS?
DEFINING MEANINGFUL USE TODAY

- ✓ Outcome Trends (ex. PONV)
- ✓ Outcome Mining (ex. patient satisfaction)
- ✓ Factor Reviews (ex. airway management)
- ✓ Providers Outcomes (self reflection)
- ✓ OPPE, FPPE (participation rate)
- ✓ MOCA
- ✓ Registry Participation
- ✓ Residency Case Logs ??

MAINTAINING A QMS:
QI PROCESS

- QI Committee meets monthly
  - Reviews Data for changes in trends (rare)
  - Each Outcome Grouping Assigned to a Reviewer, chart pulled for all intra-op and some post-op observations
  - Reviewer provides qualitative assessment of outcomes
- Providers have on line access to reports (updates every 2 months); push to this data every 6 months
- Form needs occasional updates (education)

MAINTAINING A QMS:
QI PROCESS: ACCESSING DATA

Bookmarks

- Individual Participation
- Demographics
- PreOp Delays
- Prophylactic Antibiotics
- Intraoperative Observations
- Delay in Discharge
- Post-Anesthesia Observations
- Post-Anesthesia Qualitative Data
- Post-PACU Observations
- Post Discharge Follow-up

Individual Participation

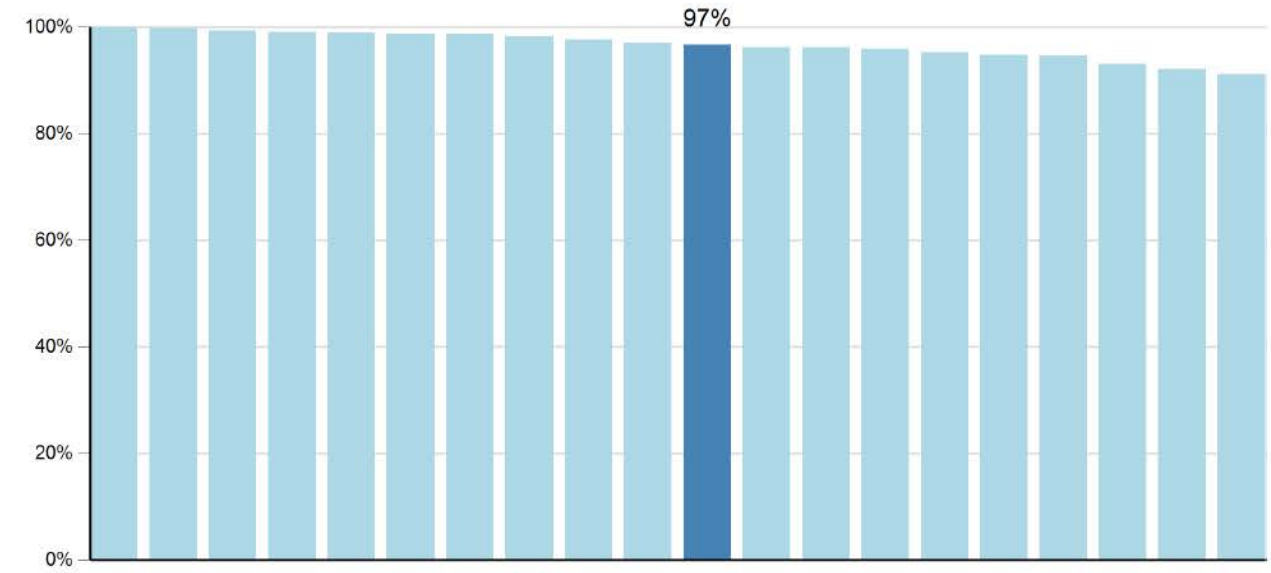
[redacted]

All Service Lines

[redacted]

Reporting Period: January 2011 - December 2011

Sections Completed - All Cases



Rank ordering of all physicians at this site of service. Your name displayed only.

Sections Completed - All Cases	Provider	Group

A report will open, with bookmarks at the side, for ease of use.

MAINTAINING A QMS: REPORTING FORMATS

- High vs. Low Frequency Events
- Comment Tracking
- Reports by:
  - Practice
  - Facility
  - Procedure type
  - Provider
    - Anesthesiologist
    - CRNA
    - Resident
    - Proceduralist

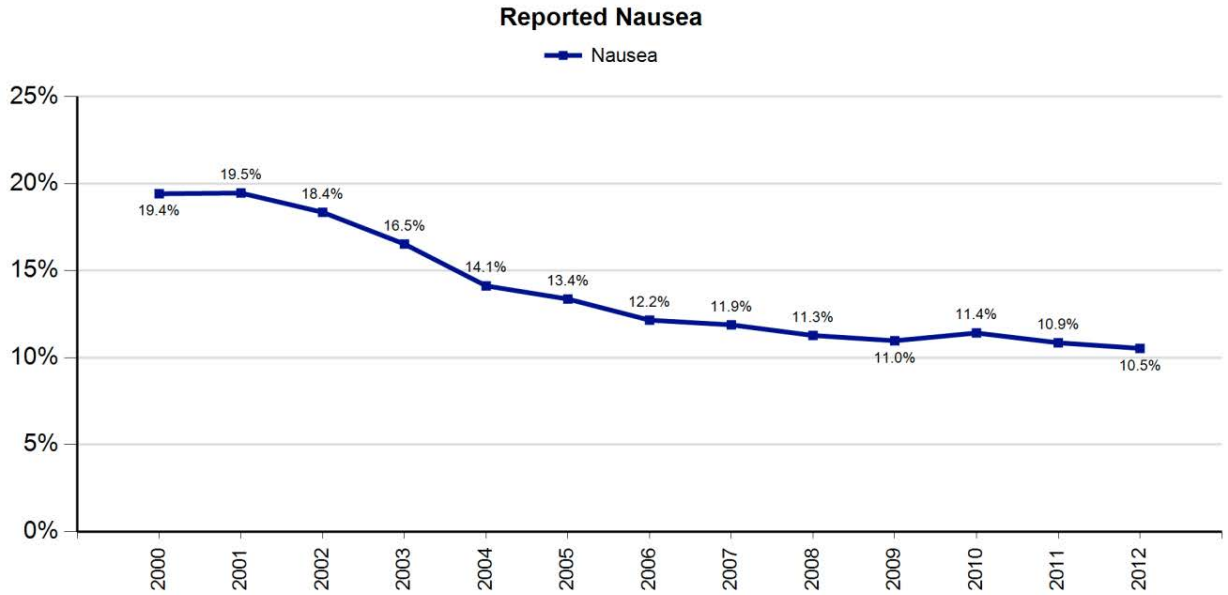
HIGH FREQUENCY EVENTS

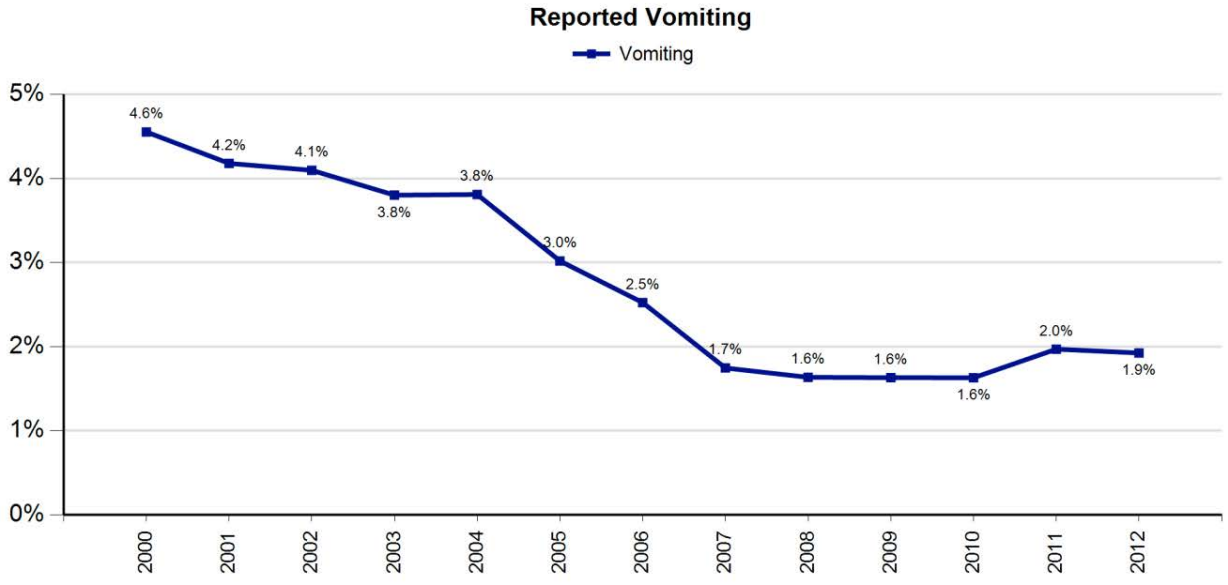
EXAMPLE: PONV

Post-Anesthesia Data

Maine Medical Center - Bramhall
All Service Lines
All Providers

Reporting Period: January 2012 - September 2012



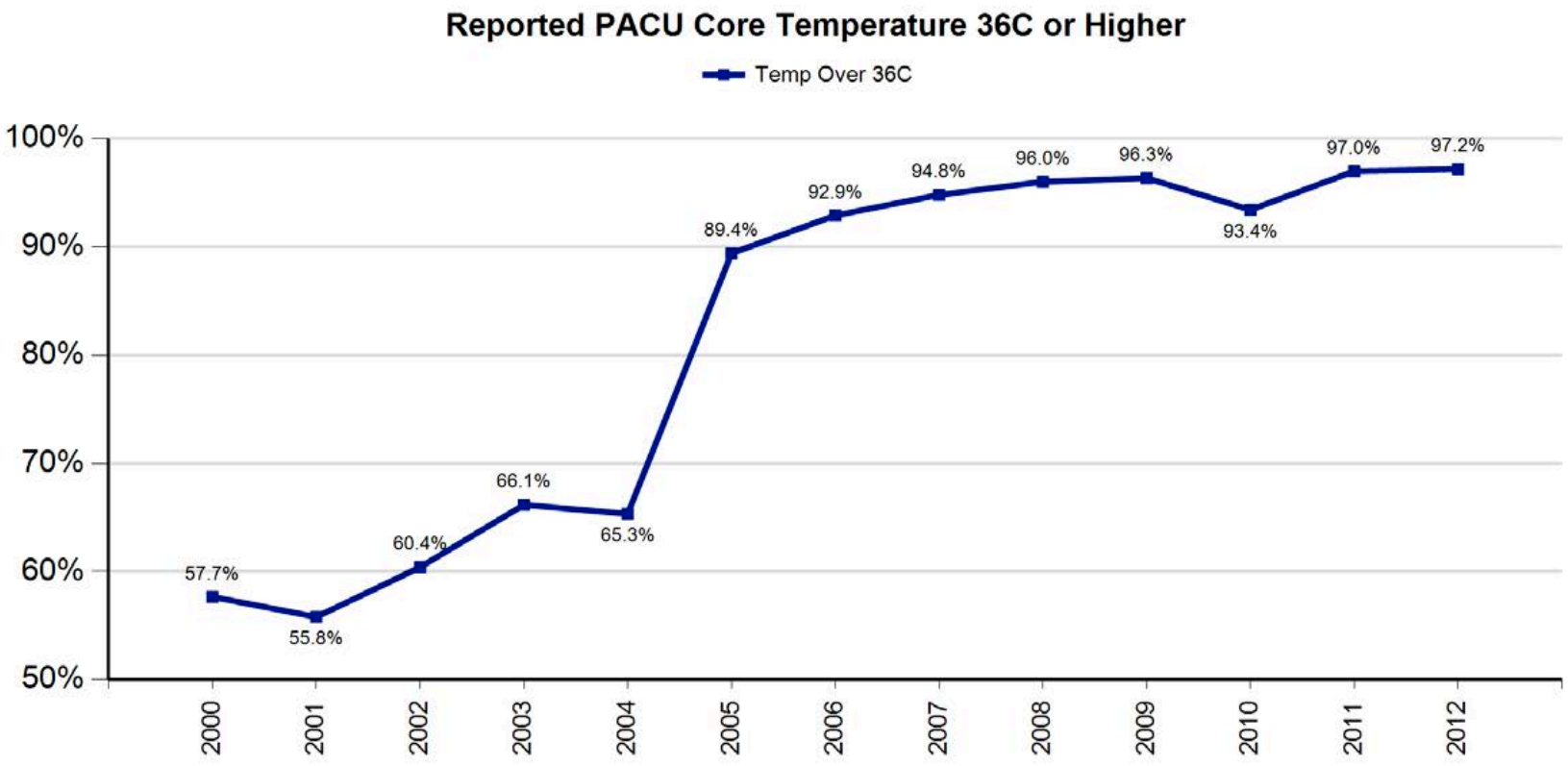


HIGH FREQUENCY OUTCOME
EXAMPLE: TEMPERATURE

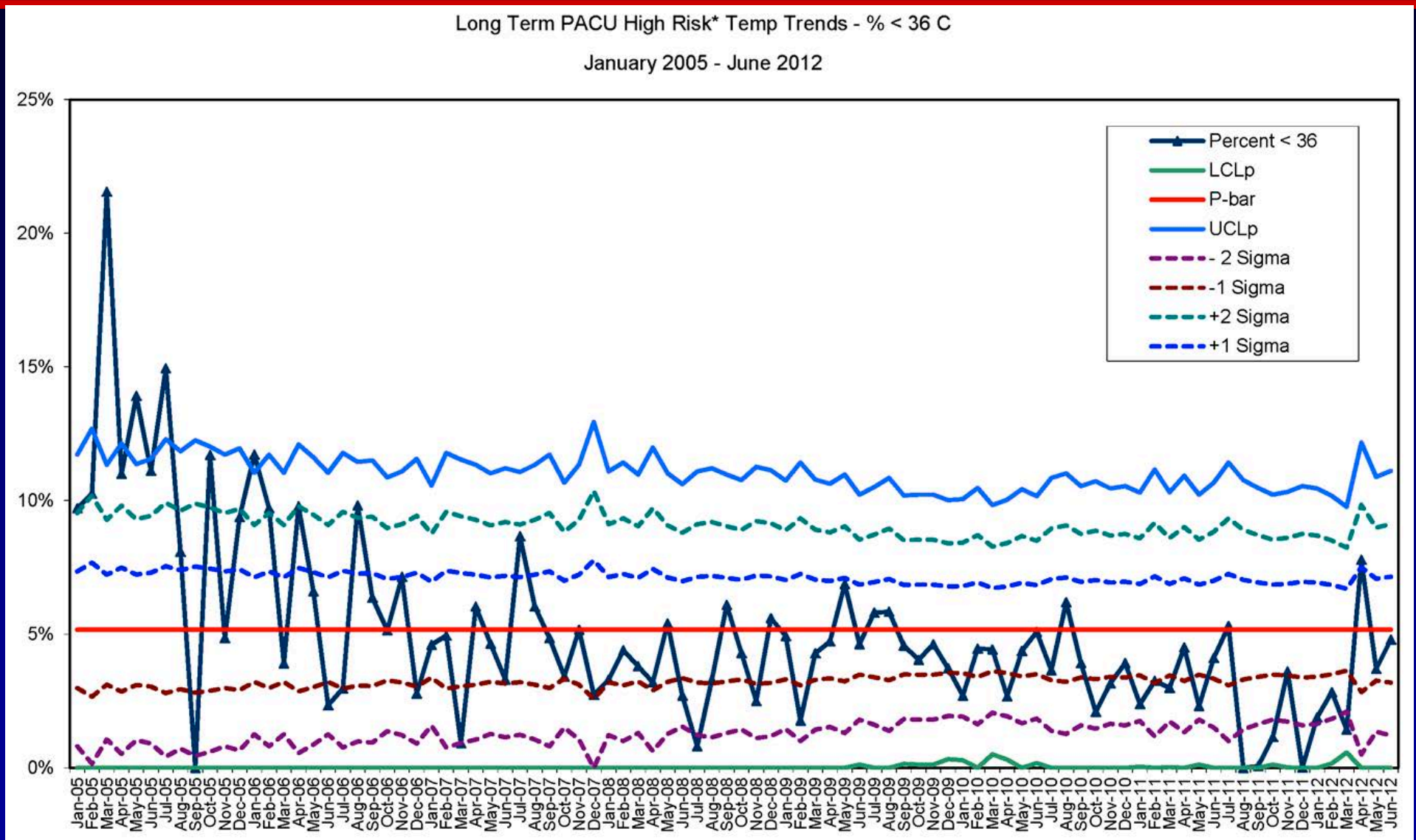
Post-Anesthesia Data

Maine Medical Center - Bramhall
All Service Lines
All Providers

Reporting Period: January 2012 – September 2012



HIGH FREQUENCY OUTCOME
EXAMPLE: TEMPERATURE



Goal: Maintenance of perioperative normothemia on high risk patients. Reasons to prevent perioperative hypothermia are to improve patient comfort, reduce coagulopathy and bleeding, reduce risk of ischemia, prevent wound infection and shorten hospitalization. High risk patients' temperature is measured in the post anesthesia care unit (PACU)

* High Risk includes Thoracotomy, Open Colectomy, Hepatectomy, Pancreatectomy, THR, TKR, Open/AS Shoulder and Open AAA

LOW FREQUENCY EVENTS

◆ = ABG

★ = NACOR (AQI)

IntraOp Observations

Maine Medical Center - Bramhall
All Service Lines
All Providers

Reporting Period: January 2012 – September 2012

IntraOp Observations	Reporting Period		12 Months Preceding	
	Count	Percent	Count	Percent
Possible Cases	17169	100.00%	24163	100.00%
Forms without IntraOp Observations	797	4.64%	8	0.03%
Incomplete Forms	1,206	7.02%	2,263	9.37%
Total Complete Cases	**15,166**	**88.33%**	**21,892**	**90.60%**
No Listed Observations ◆	14733	97.14%	21354	97.54%
Blue button/STAT page	12	0.08%	34	0.16%
Death ◆ ★	7	0.05%	9	0.04%
Unable to intubate ◆ ★	2	0.01%	1	0.00%
Difficult intubation ◆	0	0.00%	49	0.22%
Difficult Intubation, Expected	28	0.18%	30	0.14%
Difficult Intubation,Unexpected	27	0.18%	38	0.17%
Difficult mask airway	6	0.04%	11	0.05%
Reintubation in OR ◆ ★	11	0.07%	24	0.11%
Unable to extubate in OR	21	0.14%	33	0.15%
Desaturation <90% for > 3 min or <80% for >1 min ◆	31	0.20%	43	0.20%
Narcan/Flumazenil given	16	0.11%	28	0.13%
Pulmonary edema requiring intervention	1	0.01%	3	0.01%
Bronchospasm requiring intervention	8	0.05%	8	0.04%
Laryngospasm requiring intervention	23	0.15%	24	0.11%
Pneumothorax ◆ ★	1	0.01%	1	0.00%
Suspected aspiration ◆ ★	16	0.11%	13	0.06%
Arrhythmia requiring treatment	40	0.26%	44	0.20%
Myocardial Infarction requiring intervention ◆ ★	1	0.01%	2	0.01%
Myocardial Ischemia requiring intervention ◆	6	0.04%	9	0.04%
Cardiac arrest ◆ ★	5	0.03%	8	0.04%
Hypotension requiring vasopressor infusion	77	0.51%	13	0.06%
Seizure	4	0.03%	8	0.04%
Central Nervous System injury/Ischemia ◆	0	0.00%	3	0.01%
Tooth damage ◆ ★	5	0.03%	2	0.01%

IntraOp Observations

Maine Medical Center - Bramhall
All Service Lines
All Providers

Reporting Period: January 2012 – September 2012

Failed regional (require GA or repeat/any reason)	◆ ★	9	0.06%	23	0.11%
High spinal (requiring airway mngmnt)	★	4	0.03%	8	0.04%
Local anesthetic toxicity	◆ ★	0	0.00%	0	0.00%
Unintended dural puncture	◆ ★ ★	1	0.01%	3	0.01%
Vascular access complication		2	0.01%	13	0.06%
Medication event	★	12	0.08%	11	0.05%
Unexpected drug reaction		2	0.01%	3	0.01%
Malignant hyperthermia		0	0.00%	0	0.00%
Received blood transfusion	★	28	0.18%	38	0.17%
Incorrect surg.site,side,patient,procedure,implant		0	0.00%	0	0.00%
Incorrect patient		0	0.00%	0	0.00%
Equipment malfunction		34	0.22%	32	0.15%
Near miss / safety concern	◆ ★ ◆ ★	9	0.06%	13	0.06%
Fall/Burn	◆	0	0.00%	0	0.00%
Patient Burn/Fire		0	0.00%	0	0.00%
Patient Fall		0	0.00%	0	0.00%
Case canceled in OR		5	0.03%	16	0.07%
Unplanned ICU admit		1	0.01%	0	0.00%
Other		56	0.37%	149	0.68%

◆ = ABG

★ = NACOR (AQI)

Self Reflection

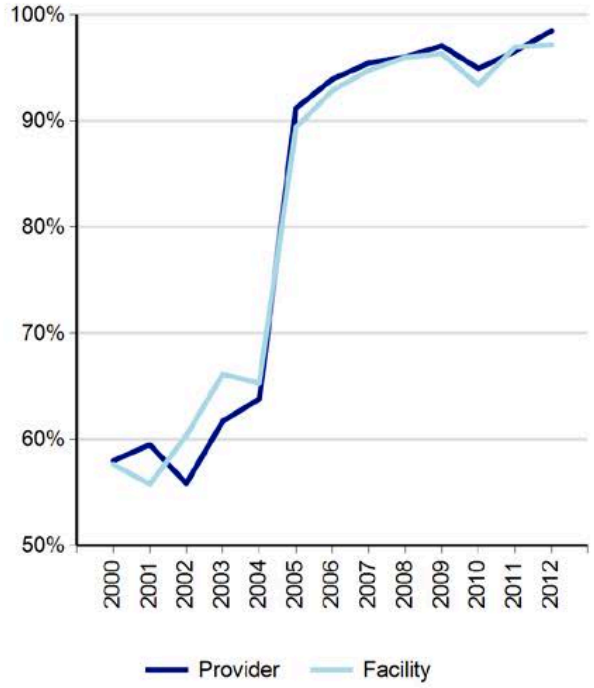
- Provide individual with own and group outcome rates for private reflection
- Modicum of risk stratification
  - Site of Service
  - Type of Case
  - Type of Anesthetics
  - Compliance with Protocols
- Provider develops hypothesis and can test over time using trends

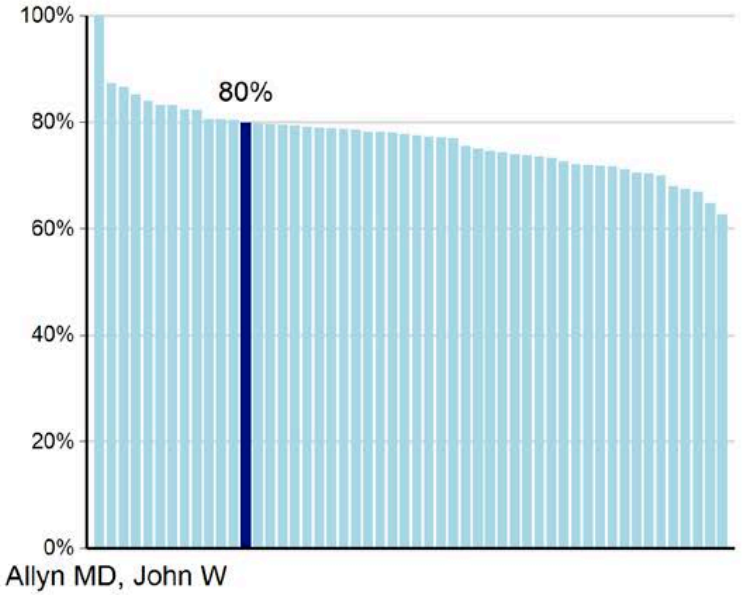
Post-Anesthesia Data

Maine Medical Center - Bramhall
All Service Lines
Allyn MD, John W

Reporting Period: January 2012 - September 2012

Reported PACU Core Temperature 36C or Higher





Based on 328 cases for this provider in this reporting period.

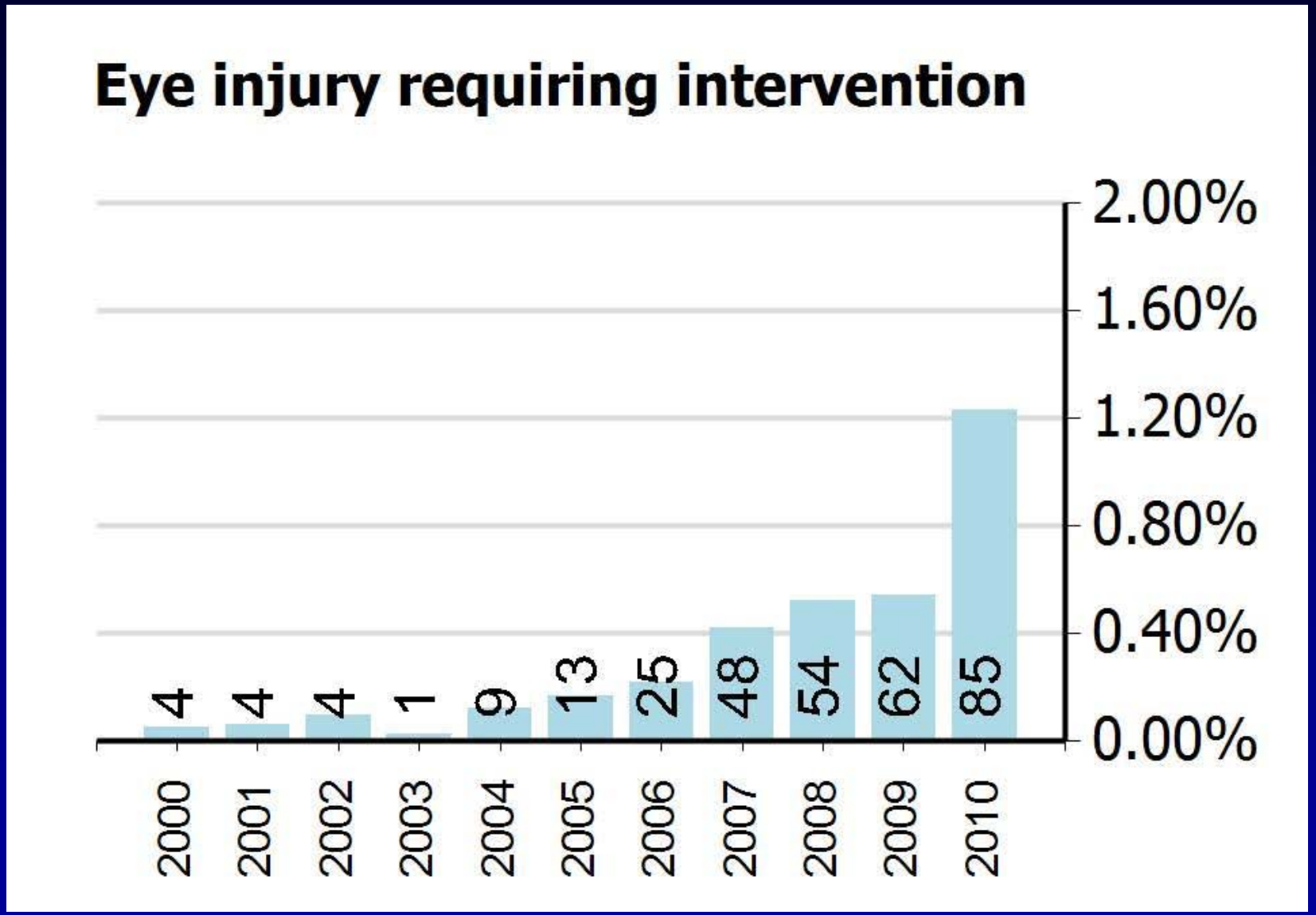
00%
03%
08%
50%
00%
00%
00%
08%
89%
22%
19%
16%
00%
13%
03%
02%
24%
43%
00%
00%
00%
00%
08%
00%
08%
00%
05%

14%

Peripheral nerve injury	0	0.00%	2	0.03%

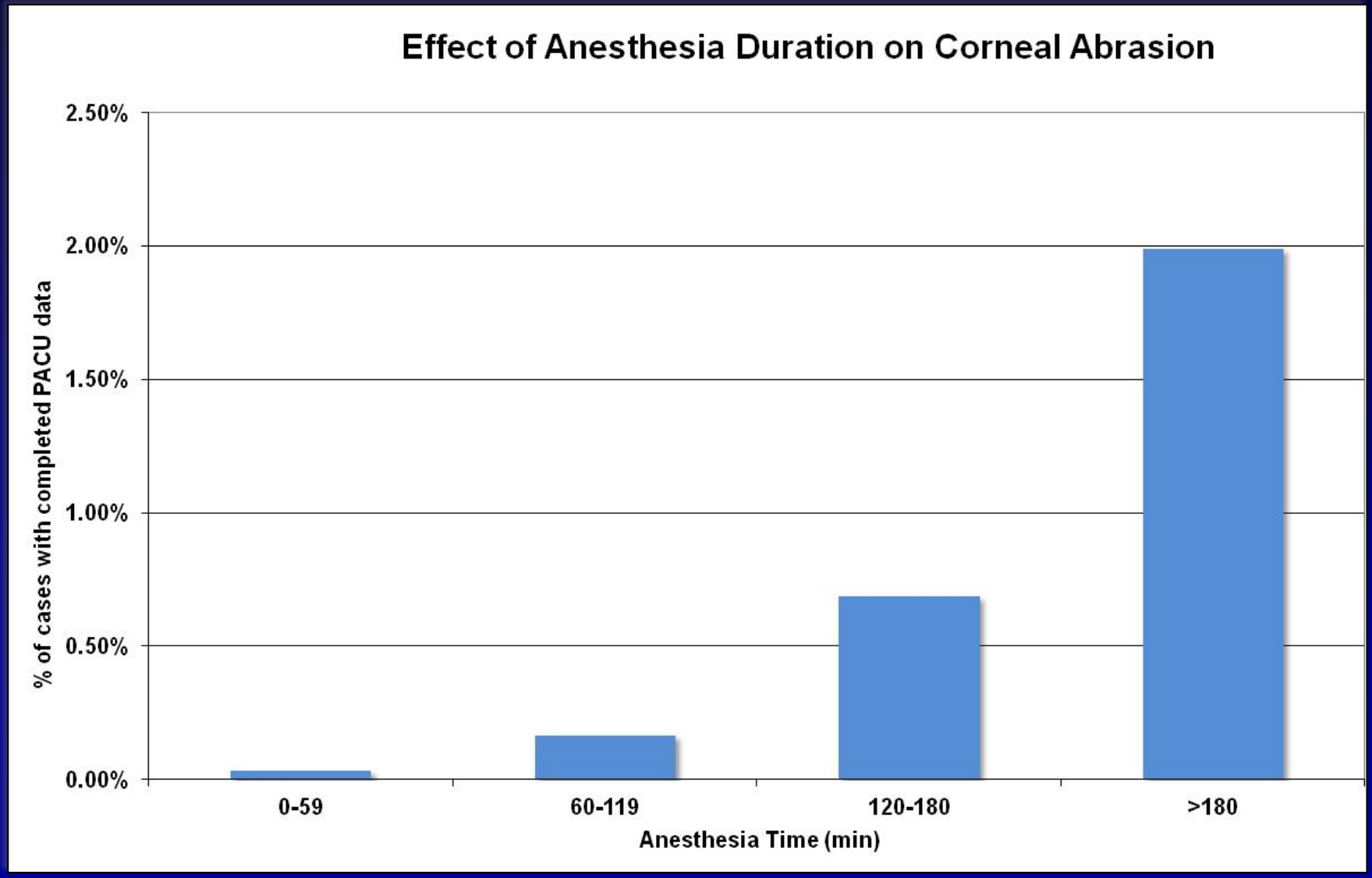
Examples

Example 1

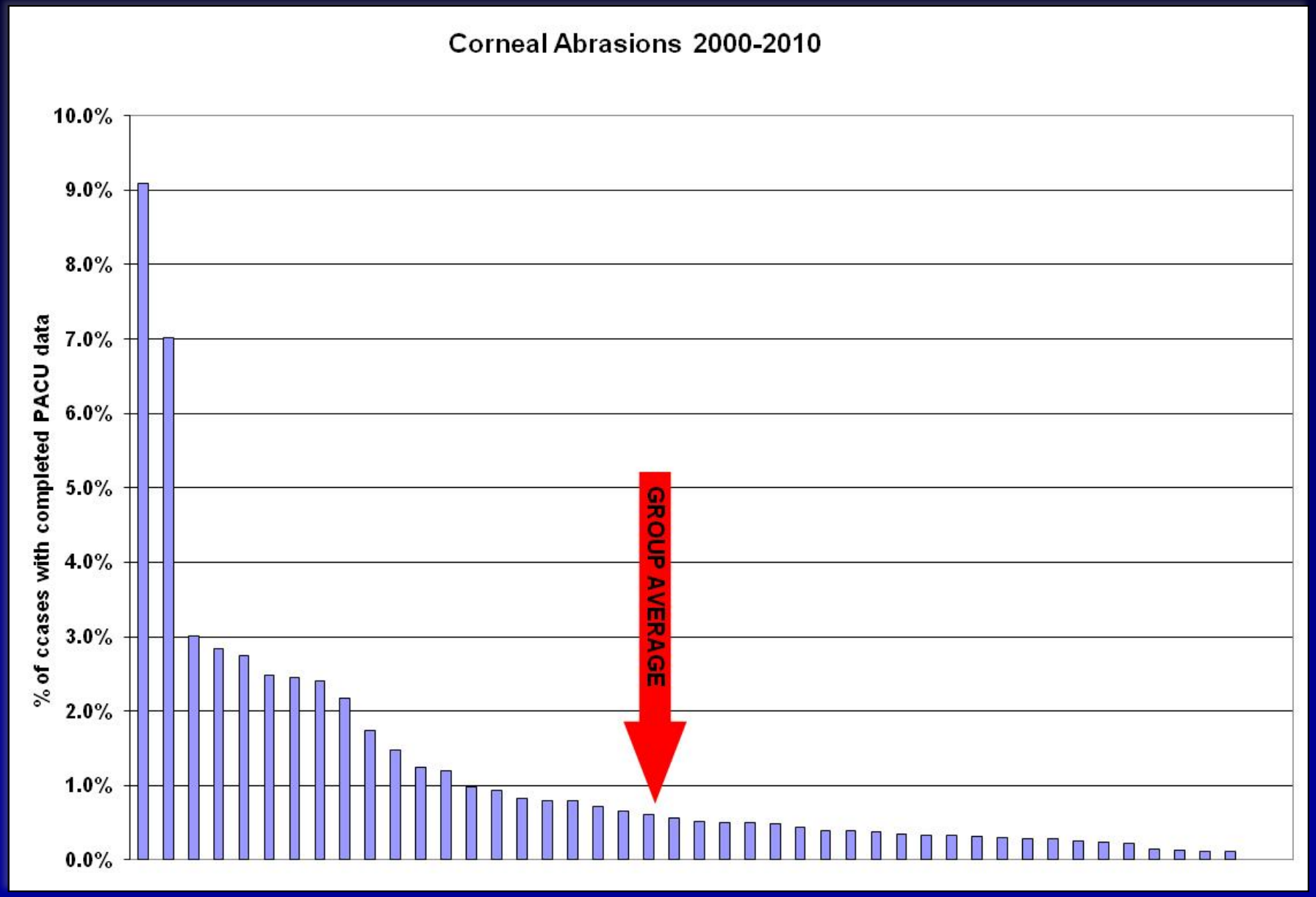

Eye injury requiring intervention
2.00%
1.60%
1.20%
0.80%
0.40%
0.00%
4
4
4
1
9
13
25
48
54
62
85
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010

Corneal Abrasions

Identify Associated Factors



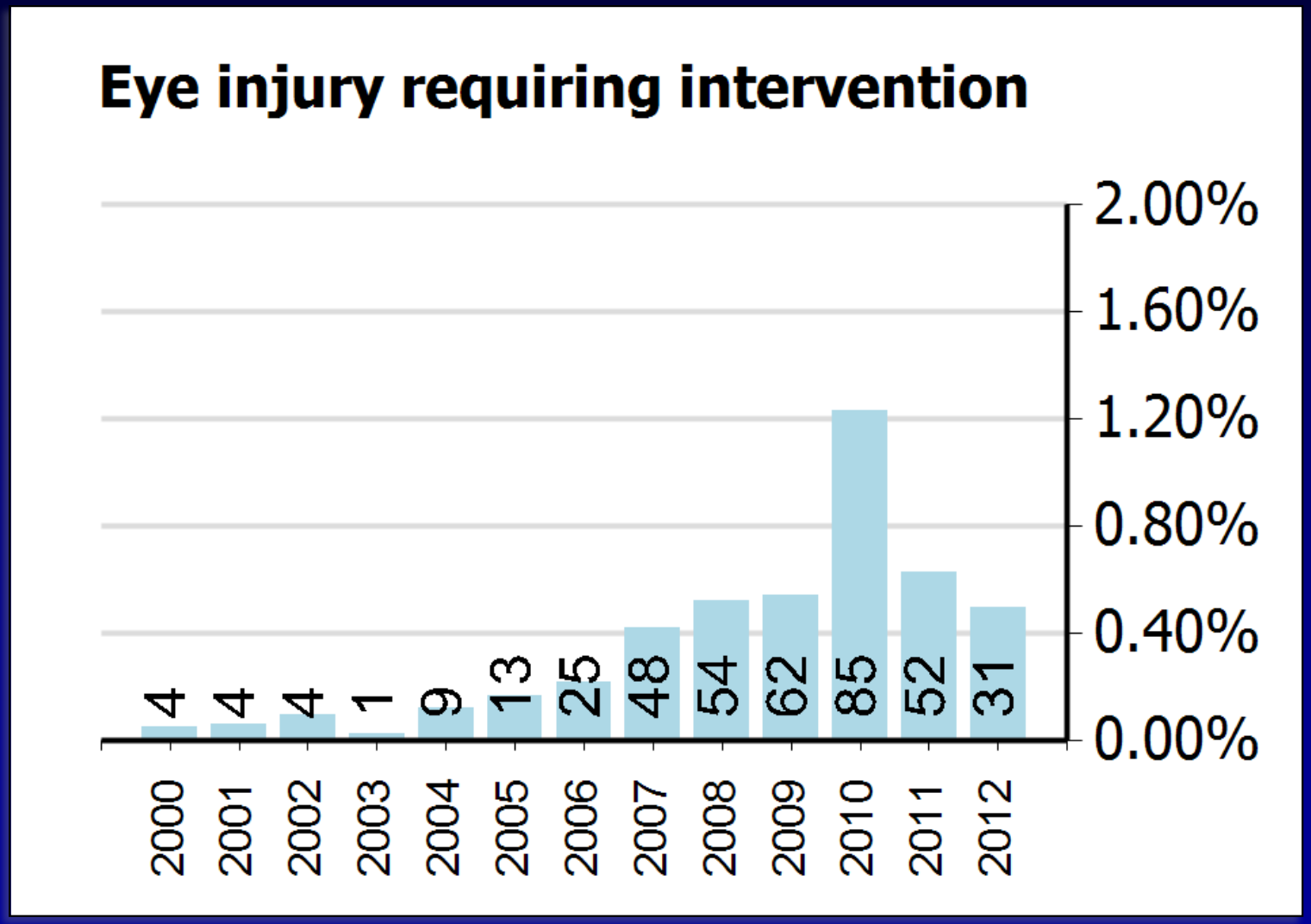
Improving Processes
Individual Feedback



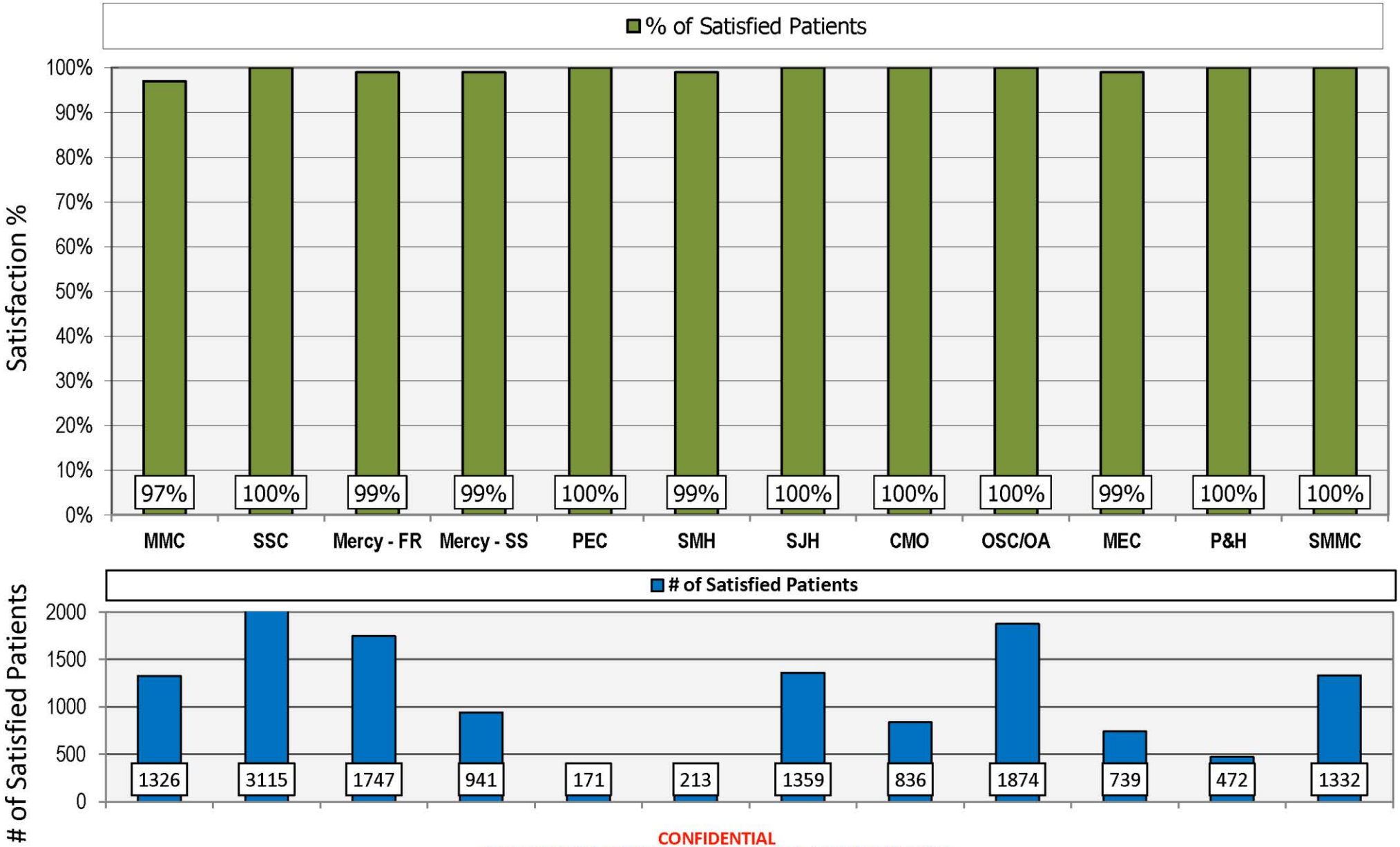
Corneal Abrasions
Identify Associated Factors

- Case Duration
- Positioning
  - Lateral
  - Prone
  - Laparoscopic/Steep Trendelenburg
- Head and Neck Surgery
- Not Induction
  - No reported cases for ECTs/Cardioversions
- Not the Patient

Improving Processes
Updated Report

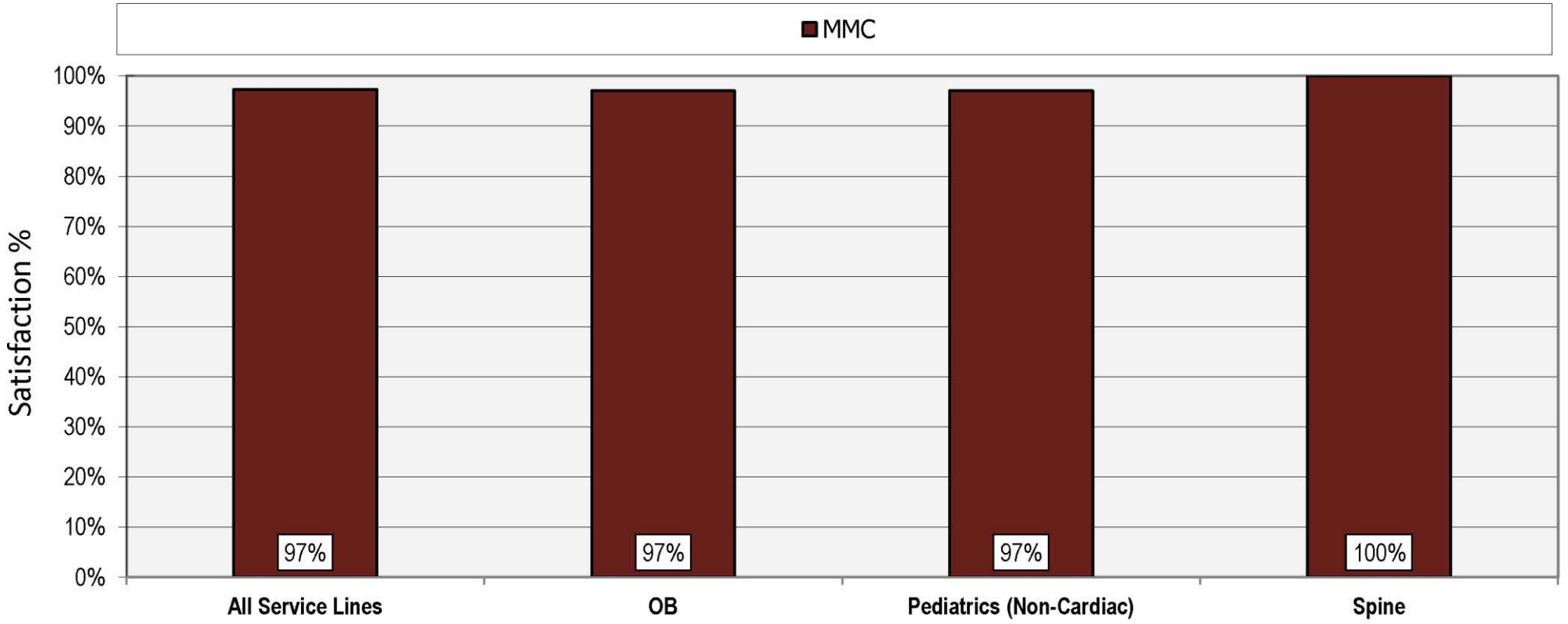


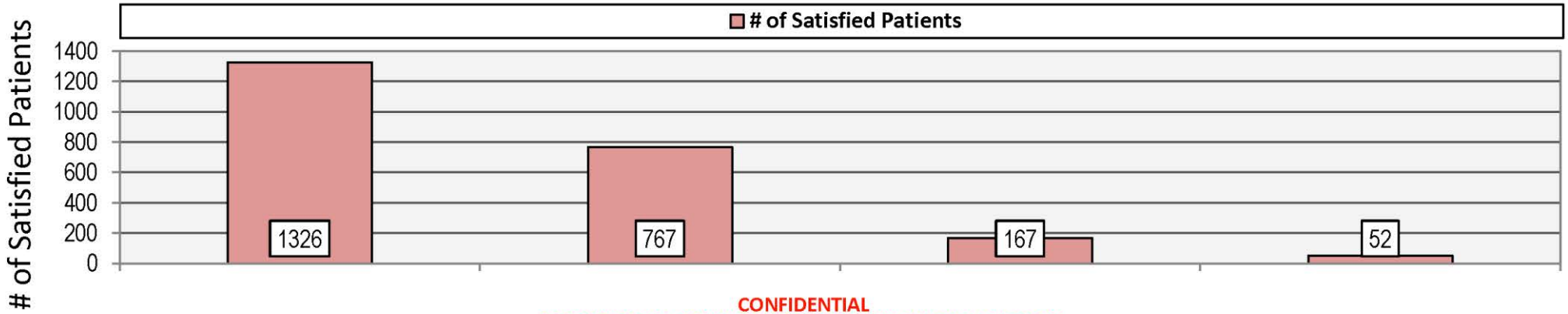
All Sites
Patient Satisfaction by Service Line
January 2012 - October 2012



Maine Medical Center

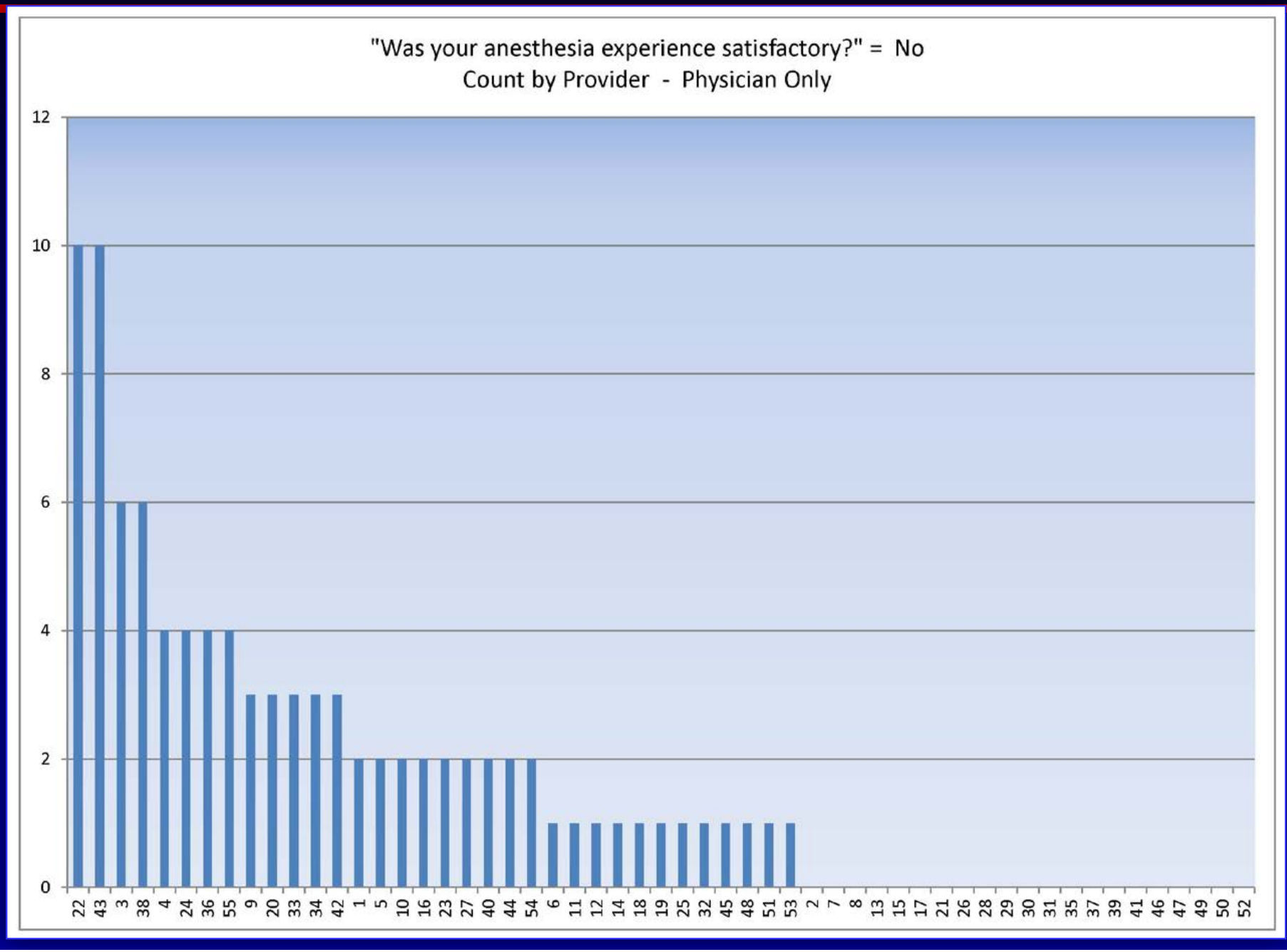
Maine Medical Center
Patient Satisfaction by Service Line
January 2012 - October 2012





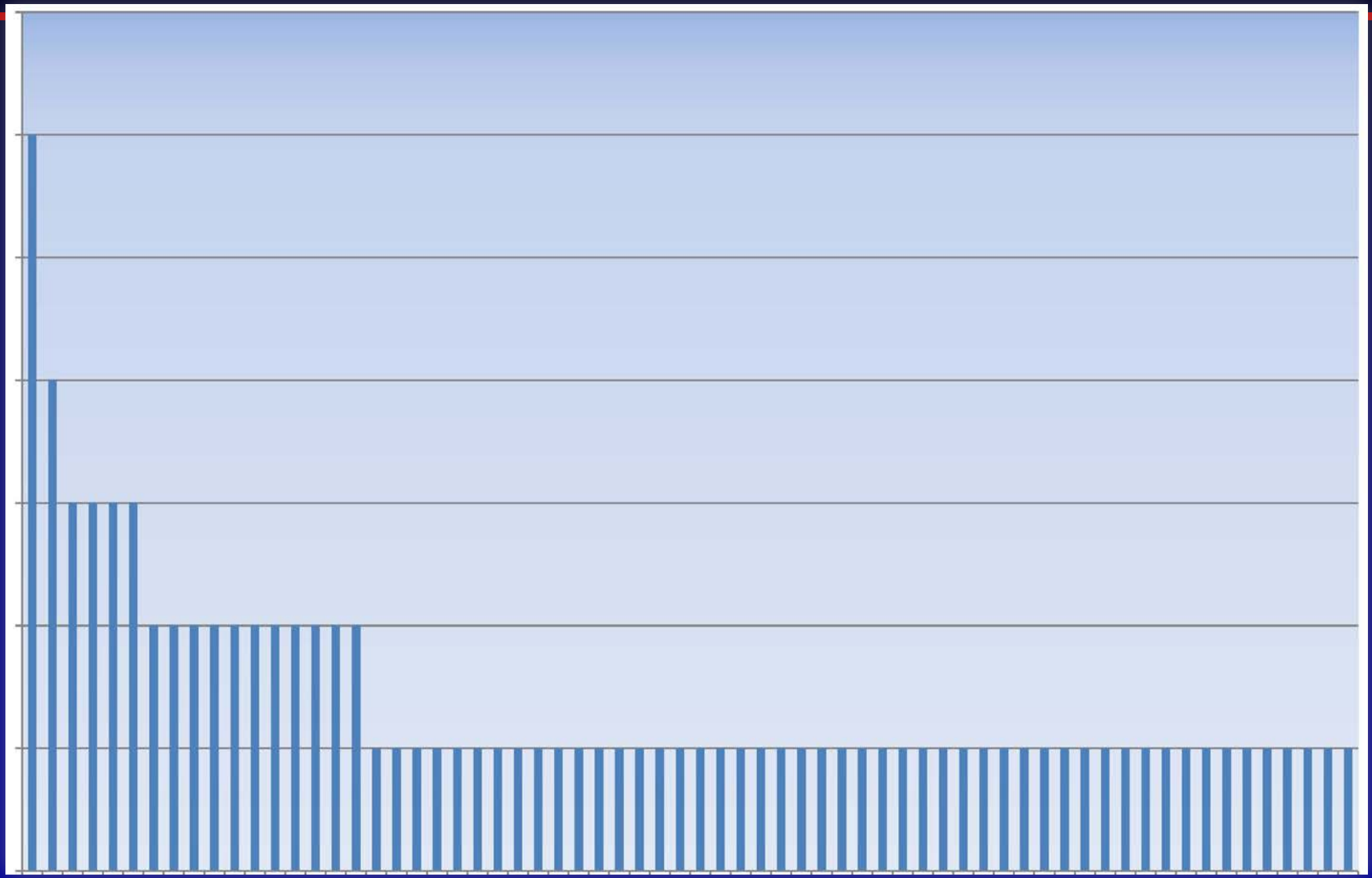
Failure Analysis: Dissatisfaction

By Anesthesiologist



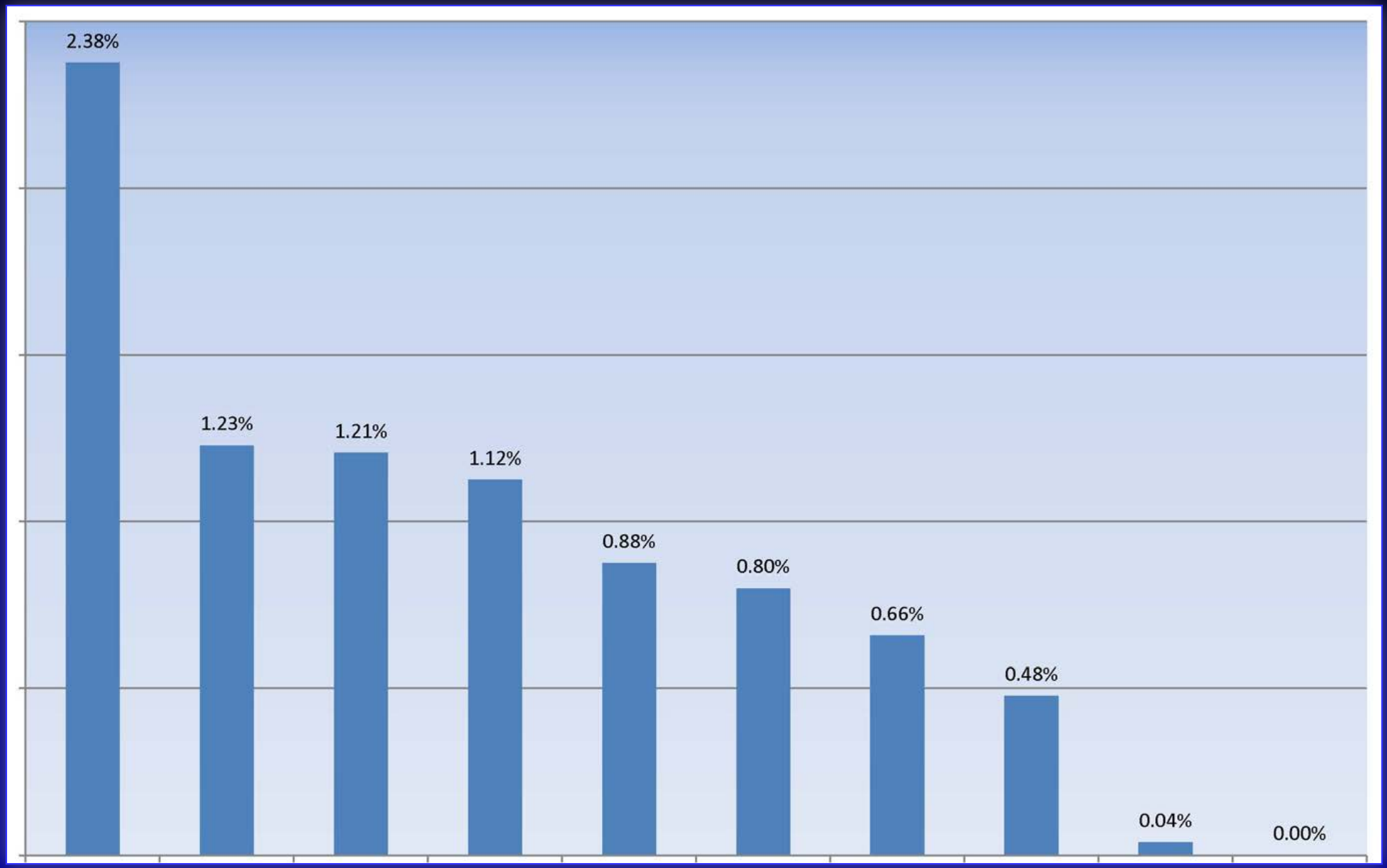
Dissatisfaction

By surgeon

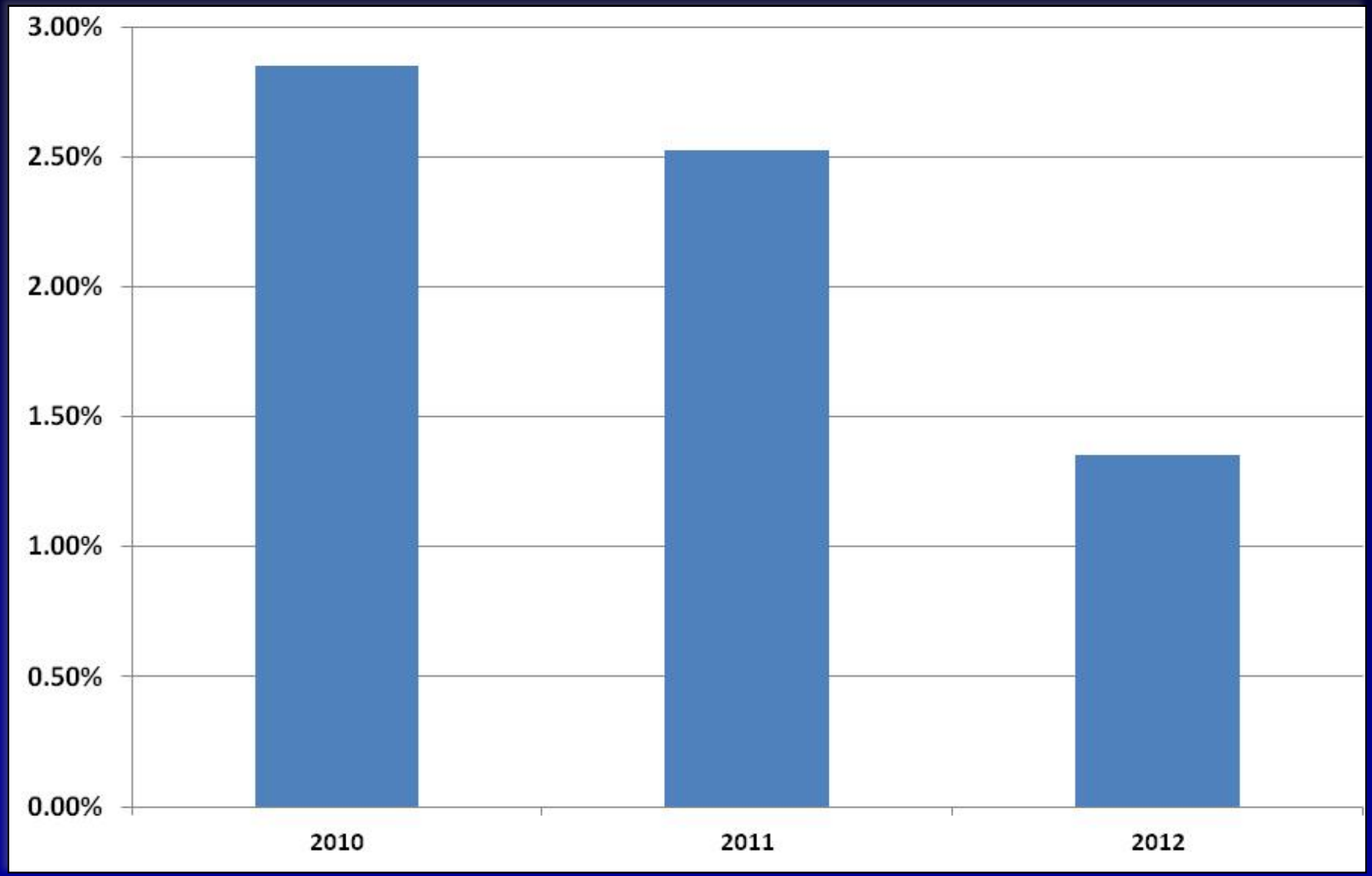


Dissatisfaction

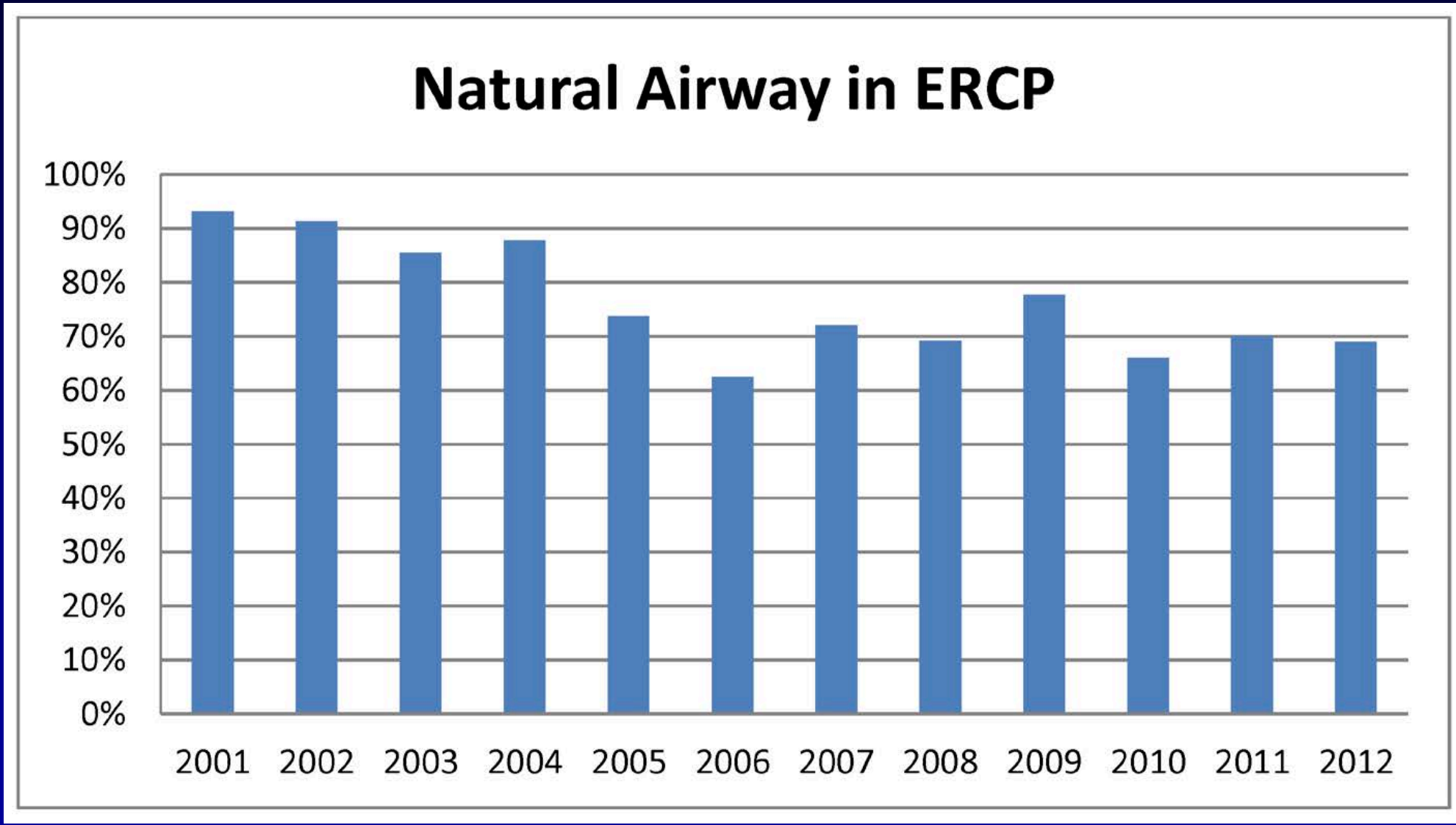
By Facility



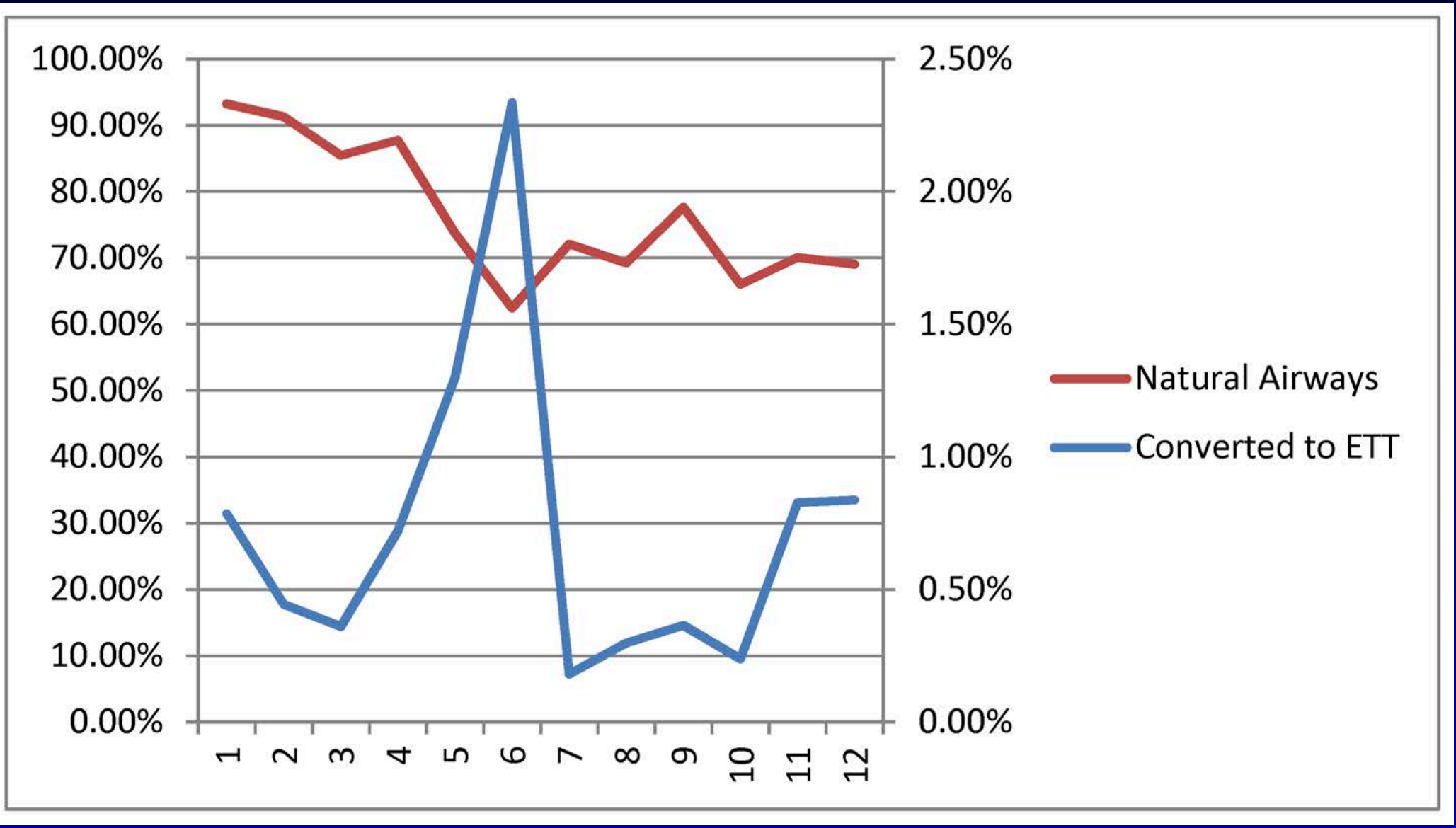
Dissatisfaction
After Intervention



EXAMPLE #3:
ERCP AIRWAY MANAGEMENT



EXAMPLE #3:
ERCP AIRWAY MANAGEMENT

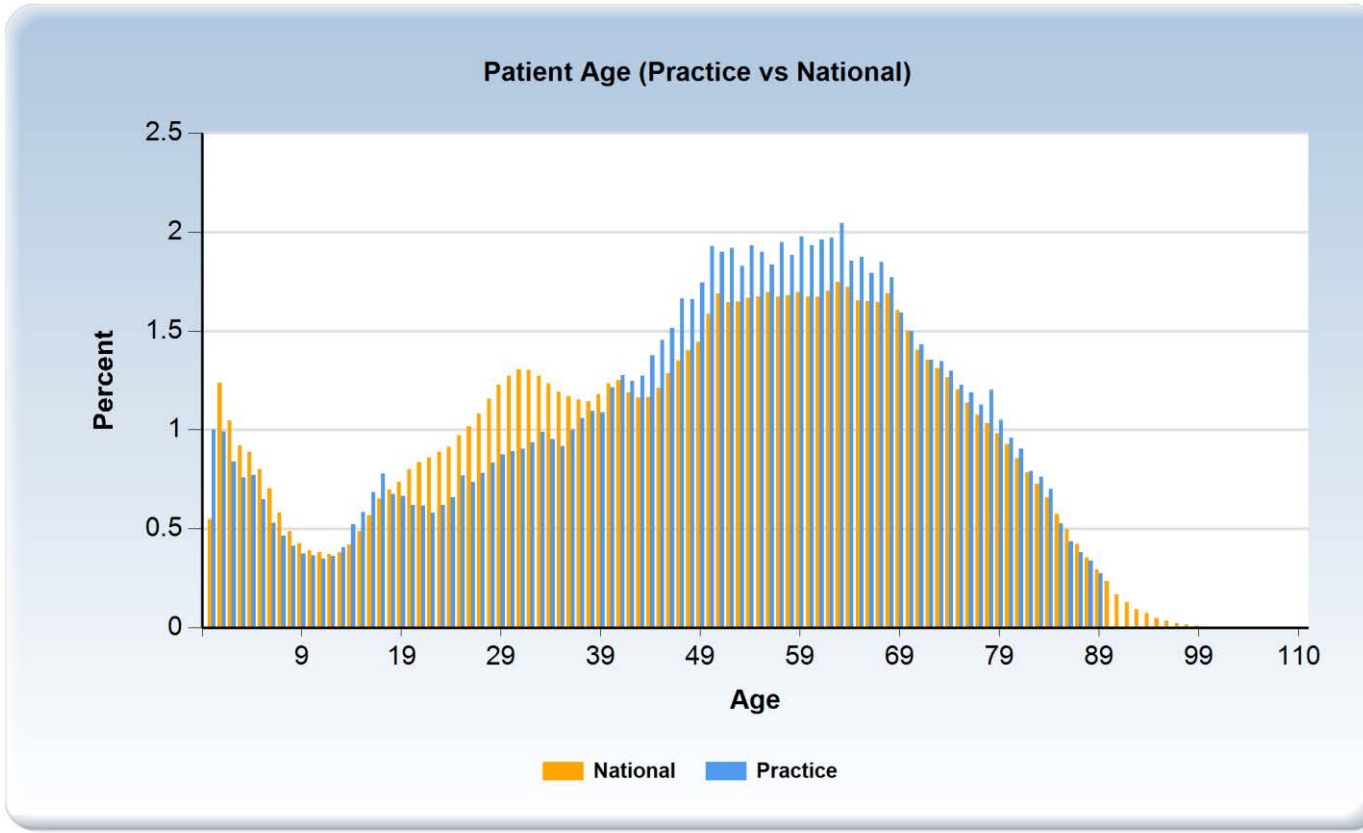


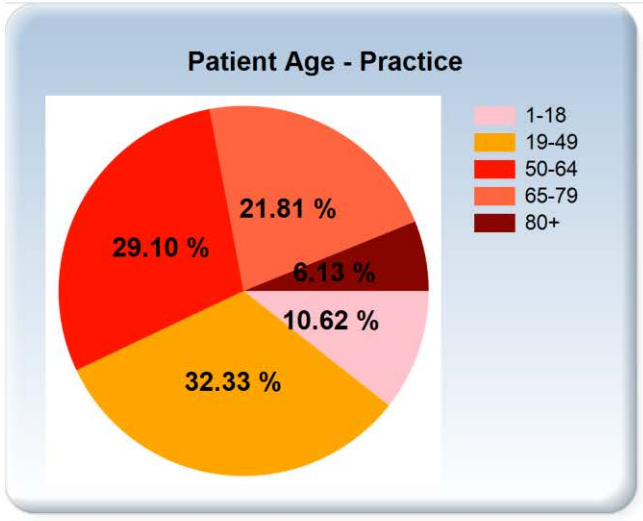
AQI Feedback

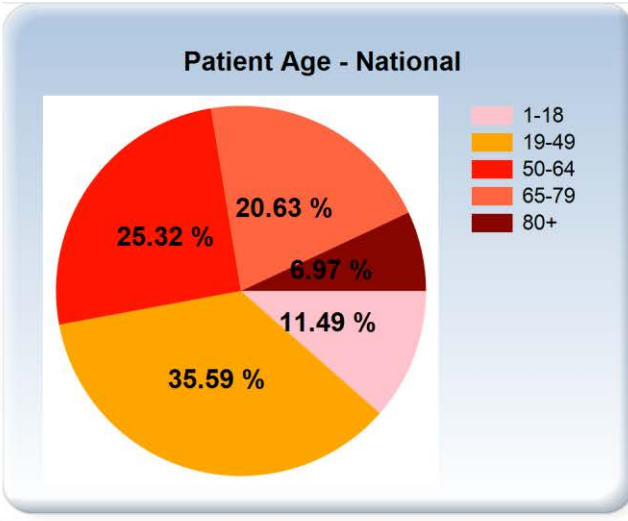
Practice vs National

Patient Age

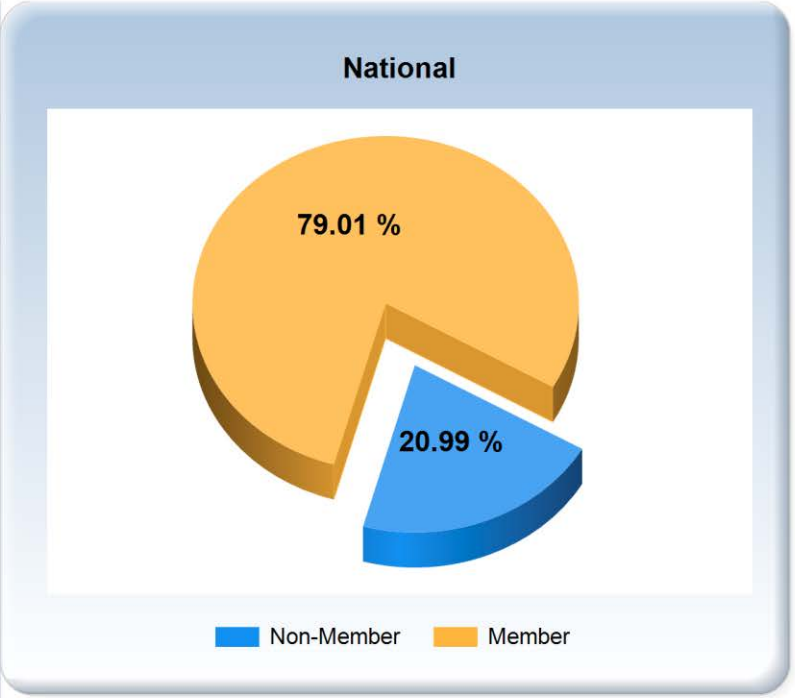
The age distribution of patients nationally compared to your practice
(Click HERE or on graph datapoints (bars, wedges, etc) to see the tables that correspond to them)







AQI Feedback
Spectrum Anesthesiology Compared to AQI Average



ASA Membership	Practice	National
Non-Member		1,171
Member	54	4,408
Total:	**54**	**5,579**

Future Directions

- We are AQI
- Preop Focus (set patient expectations)
- Sedation Outcomes
- Data Validation
- Interface with hospital QMS

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