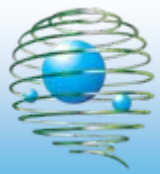


“Of course you provide great care...can you prove it?”

The power of data and IT in incentivizing and demonstrating quality

Richard L. Gilbert, MD, MBA

Chairman/CEO, Southeast Anesthesiology Consultants, PA
Charlotte, North Carolina, USA



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Disclosure

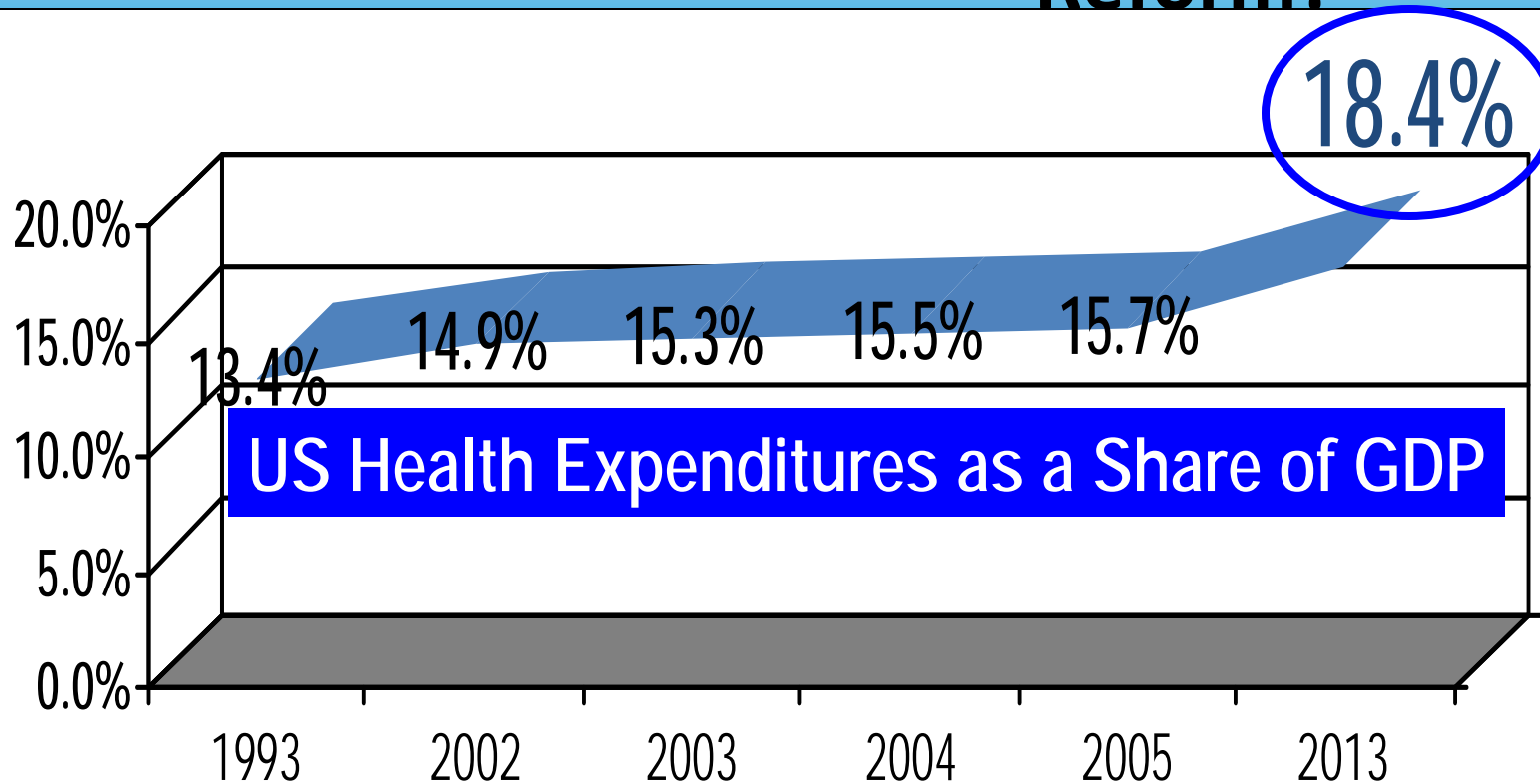
Principal – Quantum Clinical Navigation System
Alpha Site – Anesthesia Quality Institute

- **What is driving healthcare reform? Cost & Quality**
- **Proving Quality -The New Paradigm : The Accountable Care Organization /Comparative Effectiveness**
- **Developing a data driven IT system to assure quality**
- **How do we generate clinician buy-in and change clinician practice?**
- **How do we decrease medical errors in a systematic way?**
- **How do we assure individual accountability?**
- **Incentivizing and reporting quality**

- **Institute of Medicine's Landmark Report *To Err is Human* outlined need to focus care on:**
 - Safe
 - Timely
 - Efficient
 - Effective
 - Equitable
 - Patient centered
- Numerous studies have highlighted the high rate of medical errors and the need for fundamental changes in the health care delivery system to eliminate gaps in quality.

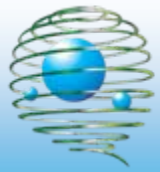
Source: Accenture, Achieving High Performance in HealthCare: Pay- for- Performance (“Accenture Report”).

What is driving HealthCare Reform?



Healthcare costs are rising rapidly - 2005 Advisory Board Value Gap

*Health Care Advisory Board, Recovering Healthcare Value, 2005, page 24.



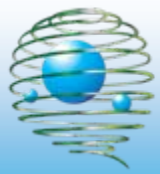
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“So let me be clear: If we do not control these costs, we will not be able to control our deficit. If we do not reform health care, your premiums and out-of-pocket costs will continue to skyrocket. If we don’t act, 14,000 Americans will continue to lose their health insurance every single day. These are the consequences of inaction. These are the stakes of the debate that we’re having right now.”

- President Barack Obama

Prime Time News Conference

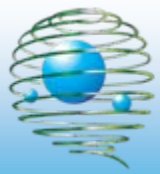




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Accountable Care A New Paradigm



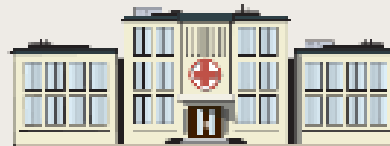


4—Performance Transparency System

Getting Serious About Performance Management

Nowhere for Underperformers to Hide

Performance Improvement Strategies



**Physician Report
Cards**



Reports keep
physicians aware
of performance
across all metrics

**Counseling for
Underperformance**



Peer counseling
allows sharing of
best practices,
conflict resolution

**Penalties/Sanctions
as Needed**



For physicians failing to
adhere to standards,
improve appropriate
response taken

Escalating Interventions →

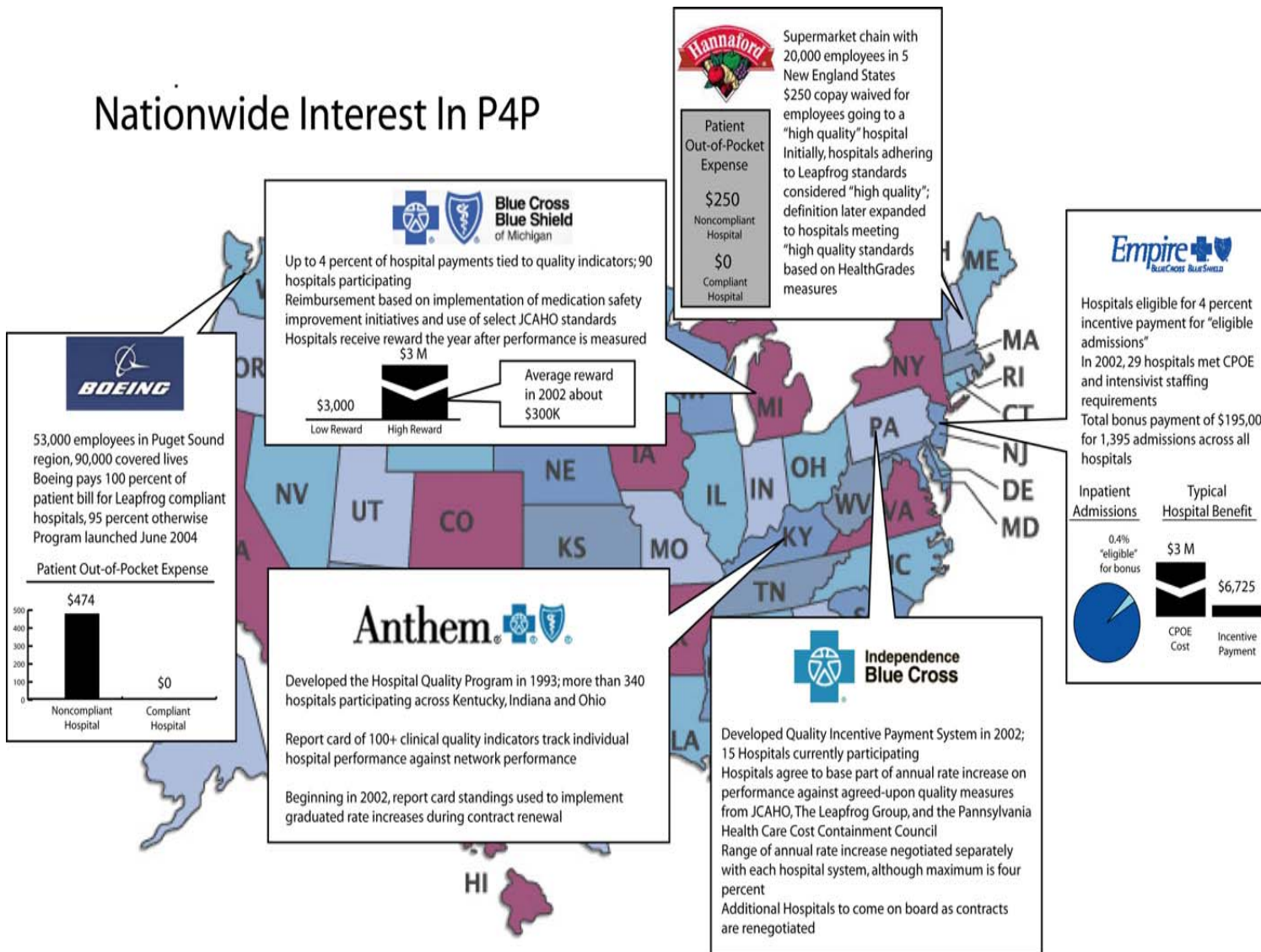
Source: Innovations Center Interviews and analysis.

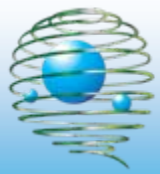
- **Joint Commission on Accreditation of Healthcare Organizations-** Core Measures, Physician Credentials (OPPE/FPPE)
- **Centers for Medicare/Medicaid Services-** Surgical Care Improvement Project- 2% withhold
- **Managed Care Organizations -Pay For Performance**
- **Malpractice Premiums**
- **Physician Quality Reporting Initiative- 2%**

- **HCAHPS** -*Hospital Consumer Assessments of Healthcare Providers & Systems*
- **Research Firms /Media**
 - ✓ Press Ganey, PRC, JD Powers, Health Grade, HealthStream; US News and World Report

Managed Care Pay for Performance

Nationwide Interest In P4P





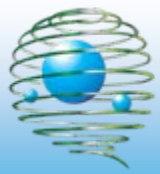
The Challenge

“ The primary problem is not the absence of knowledge regarding comparative effectiveness, but the absence of the necessary mechanisms to put this knowledge to work.”

-G. Caleb Alexander, et al.

***Does Comparative Effectiveness
Have a Comparative Edge?***

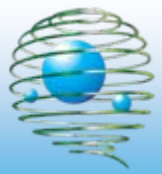
JAMA, JUNE 17, 2009



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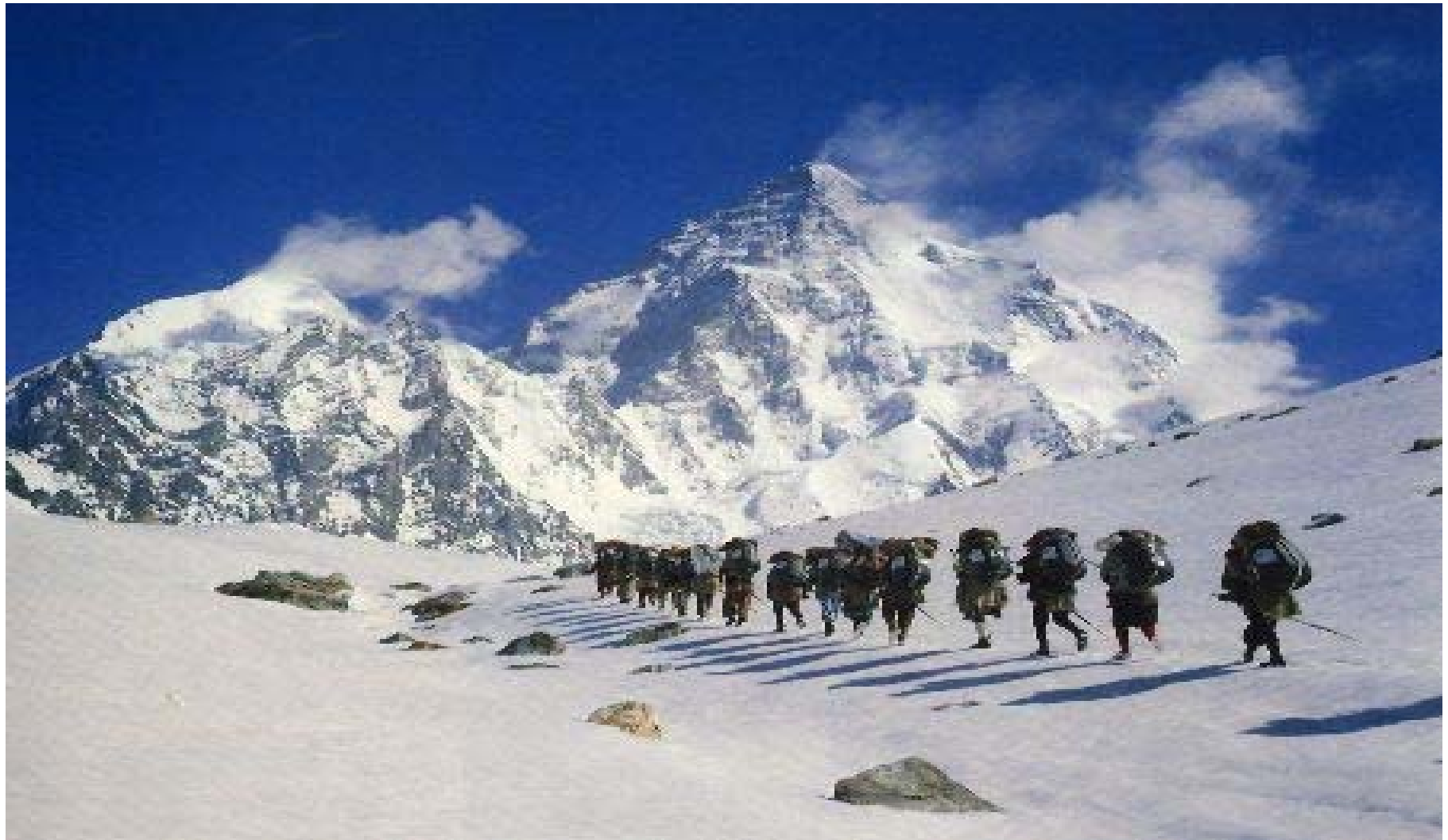
We Would Prefer to “Let Sleeping Dogs Lie”





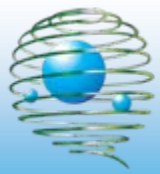
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Journey To Quality

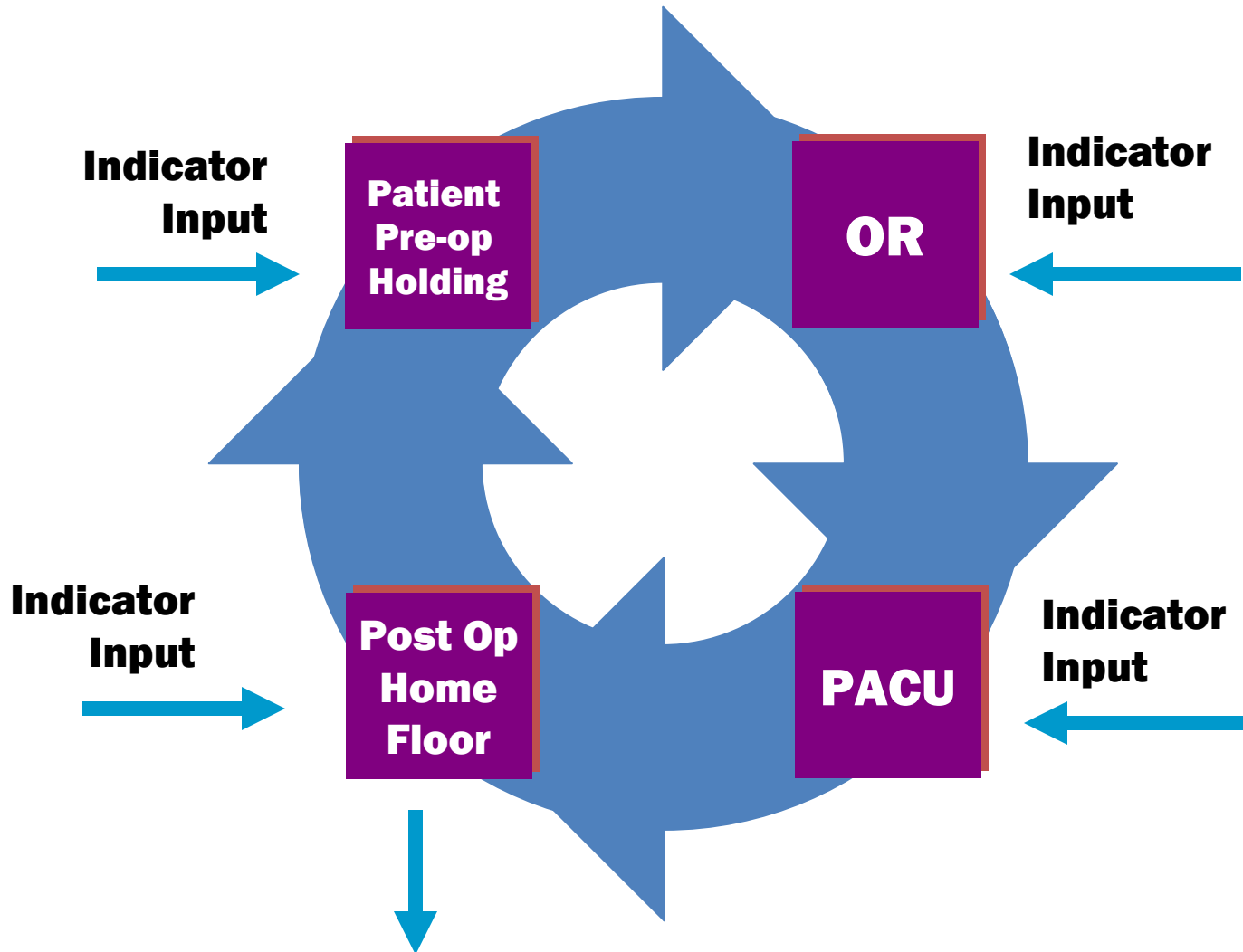


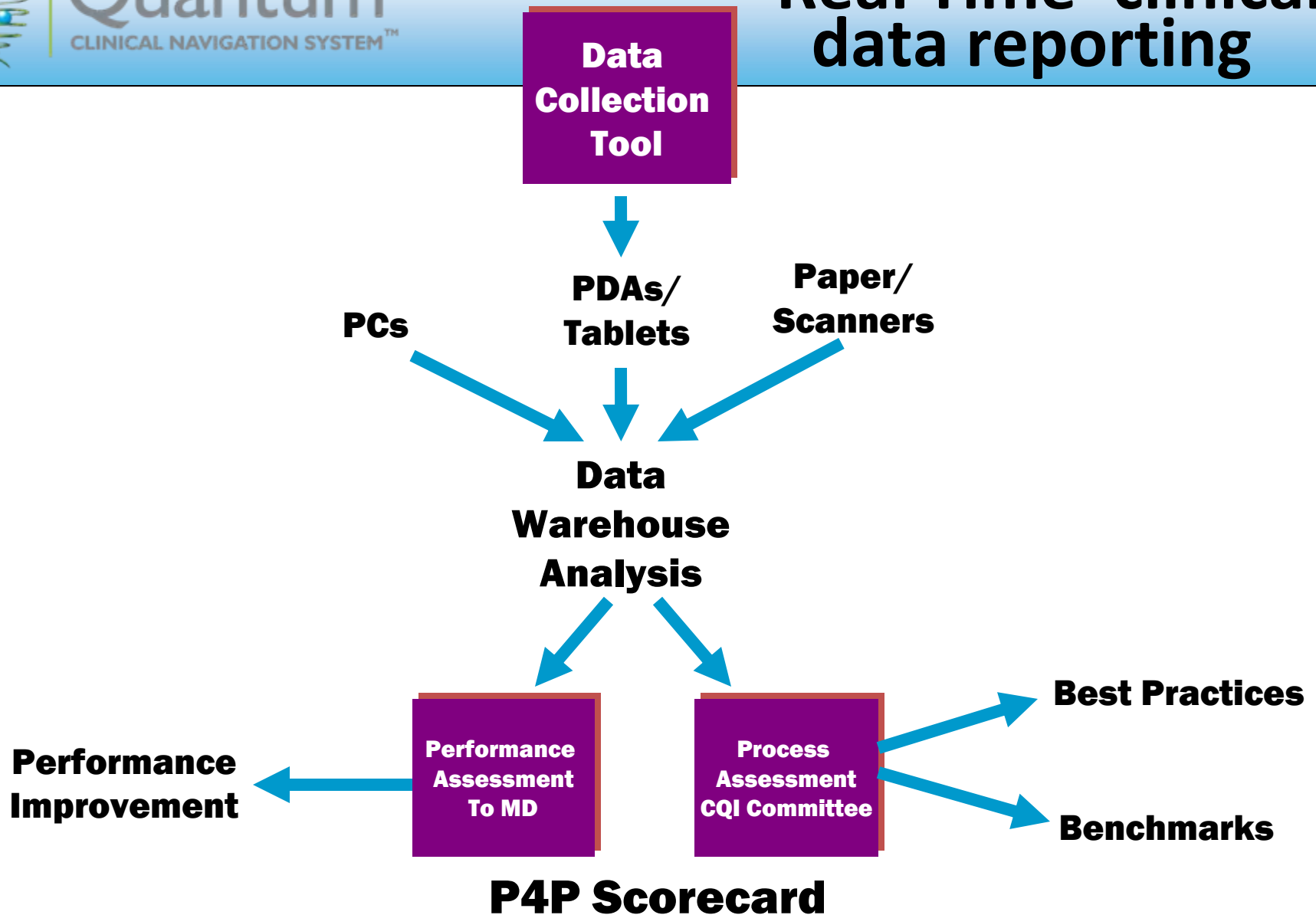
- **How do we design a data driven CQI program for clinicians**
- **Measure a spectrum of relevant (changeable) parameters**
 - ✓ Efficiency/Timeliness (Value/Productivity)
 - ✓ Patient Satisfaction (Patient Focused)
 - ✓ Practitioner Performance (Individual Accountability)
 - ✓ Clinical Outcomes (Systems Issues)
- **Continuous real time feedback loop to:**
 - ✓ Providers
 - ✓ CQI committees
 - ✓ Department chiefs
 - ✓ Executive committee
 - ✓ Hospital administration

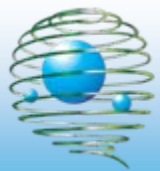
- **Systems approach**
 - ✓ Analysis of aggregate data & EBM guide development of system-wide best practices and *systems approach to error reduction*
- **Performance benchmarks**
 - ✓ measures/benchmarks to assure *individual accountability and facilitate clinician practice change*
- **Reduce variability**
 - ✓ Facilitates improved individual practitioner performance, identifies systems opportunities to reduce variability which positions providers to exceed benchmarks



Inputs and Measurements Throughout the Care Process







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Breaking Down the Barriers Getting Physician Buy-in



How Do We Generate Physician Buy In?

- **Real time clinician entered metrics**
 - ✓ Not claims based or retrospective chart review
- **Transparency**
 - ✓ Virtually 100% data capture; comprehensive audit process assures veracity of data
- **Timely communication of practitioner results**
- **Uniform clinical definitions**
 - ✓ Apples to apples measurements
- **Ease of implementation and ease of use**

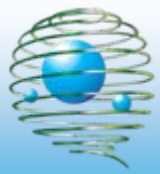
How Do We Generate Physician Buy In?

- **Field tested**
 - ✓ wide spectrum of clinical settings; >100K patients annually
- **Opportunity to achieve substantial improvements in**
 - ✓ Patient satisfaction
 - ✓ Efficiency
 - ✓ Quality of care
- **Practitioner/site specific information**
- **Ability to benchmark and achieve objective comparisons**
- **Communicate expectations/encourage positive incentives**
- **Low cost scanned or web based system.**

How Do We Change Physician Practice?

- **Constant Re-measuring; Reporting**
 - ✓ (Hawthorne Effect- What you measure improves)
- **Benchmarking facilitates positive competition**
- **Alerts focus on key metrics**
- **Real time reporting enables quick analysis, intervention, re-measurement**
- **Implement best practices-review of data in aggregate-along with evidenced based medicine**

- **Individual Performance-real time feedback loops**
 - ✓ We create constant real time positive & negative feedback loops plus benchmarking
 - ✓ Fosters change in clinician practice
 - ✓ Preserves individual accountability
- **Systems approach- decreases variability/errors**
 - ✓ This process results in organizational clinician practice change
 - ✓ Systems approach to decreasing errors





Critical Event Immediate feedback

Critical Alert

This is notification that a critical alert has been reported that needs your review.

Physician: Dr. <PhysicianName>

Date of Service (date event occurred): 06/28/2010

Indicator: # 23 Awareness under general anesthesia

To view the case details for the above event:

- (1) log into Quantum to view your Quantum notes.
- (2) click the link under the Subject header or the link to your unread notes
- (3) click the medical record number within the link to view the entire patient case detail.

For assistance contact the Quantum help desk at helpdesk@quantumcns.com or call 866-927-1337

Alerts provide immediate notification
of Critical Events when they occur

	Dr. Sample	Group Average
Unplanned Case Cancellation Day of Surgery		
Abnormal EKG/Labs	0.00%	0.03%
NPO Violation	0.00%	0.02%
Process Delay (Pre-Op)		
Anesthesiologist Late > 10 Minutes	0.00%	0.06%
Unanticipated Abnormal Lab	0.00%	0.02%
NPO Violation	0.00%	0.03%
OR Room Delay (turnover > 10 Minutes)	0.21%	0.27%
Surgeon Late > 10 Minutes	1.12%	1.27%
Holding Area Delay > 10 Minutes	0.32%	0.38%
PRACTITIONER PERFORMANCE		
Difficult Intubation	0.27%	0.50%
Sleep Apnea Pt – OSA Protocol Implemented	90.12%	80%
Dental Damage/Loss	0.05%	0.05%
Perioperative BB Given to Pt on BB	100.00%	85%
Prolonged NM Block – Unplanned	0.20%	0.50%
Antagonist Use (Pre-op/Intra-op/PARU)	0.11%	0.23%
Medication Error (by Anesthesia Care Team)	0.00%	0.50%
Antibiotic Initiated w/in 1 Hr Pre-Incision	100.00%	90%
Failed Regional Requiring General Anesthesia	1.81%	5%
Injury Due to Pressure/Positioning	0.00%	0.02%
Peripheral Nerve Injury d/t Regional Block	0.00%	0.01%
High Spinal Req Intubation and/or Asst Vent	0.00%	0.02%
Wet Tap from Epidural (dx by Anes Care Team)	2.78%	3%
Pain Control Inadequate (>4 on analog scale)	1.92%	10%
Awareness Under General Anesthesia	0.00%	0.01%
Normothermia on Arrival to PARU	93.97%	90%
DM: Glucose/Insulin Protocol for Diabetic Pts	80.28%	80%
Burn Injury	0.00%	0.03%
PARU Stay > 2 Hrs (Clinical Cause e.g. n/v, sedation)	7.84%	5.70%
Eye Injury/Corneal Abrasion	0.05%	0.07%
Site Verification Protocol w/Regional Block	93.85%	95%
Airway Fire	0.00%	0.00%
Complication w/CVL Placement/Use	0.05%	0.02%
Death	0.16%	0.11%
Death r/o Anesthesia (Pending Review)	0.00%	0.00%
Aspiration of Gastric Contents	0.17%	0.05%
Bronchospasm Requiring Treatment (Perioperative)	0.00%	0.07%
Failed Airway (Req Surgical Trach or Wakeup)	0.00%	0.01%
Laryngospasm	0.00%	0.13%
Hypoxemia (Intra-op/PARU)	0.16%	0.06%
Pulmonary Edema	0.00%	0.04%
Pneumothorax due to Mechanical Vent	0.00%	0.00%
Cardiac Arrest (Intra-op/Post-op)	0.05%	0.08%
BP Changes +/- 20% Req Treatment (Intra-op/PARU)	20.06%	30%
EKG Changes Requiring Treatment	0.32%	0.37%
MI (Perioperative)	0.00%	0.02%
PONV Requiring Med Treatment in PARU	8.48%	15%
PONV Requiring Med Treatment After Discharge	4.32%	15%
Prolonged Epidural/Spinal > 4 Hrs	0.40%	0.32%
Reintubation Unplanned	0.17%	0.50%
ICU Admission Unplanned	0.27%	0.23%
Post-Dural Puncture Headache	0.00%	0.25%

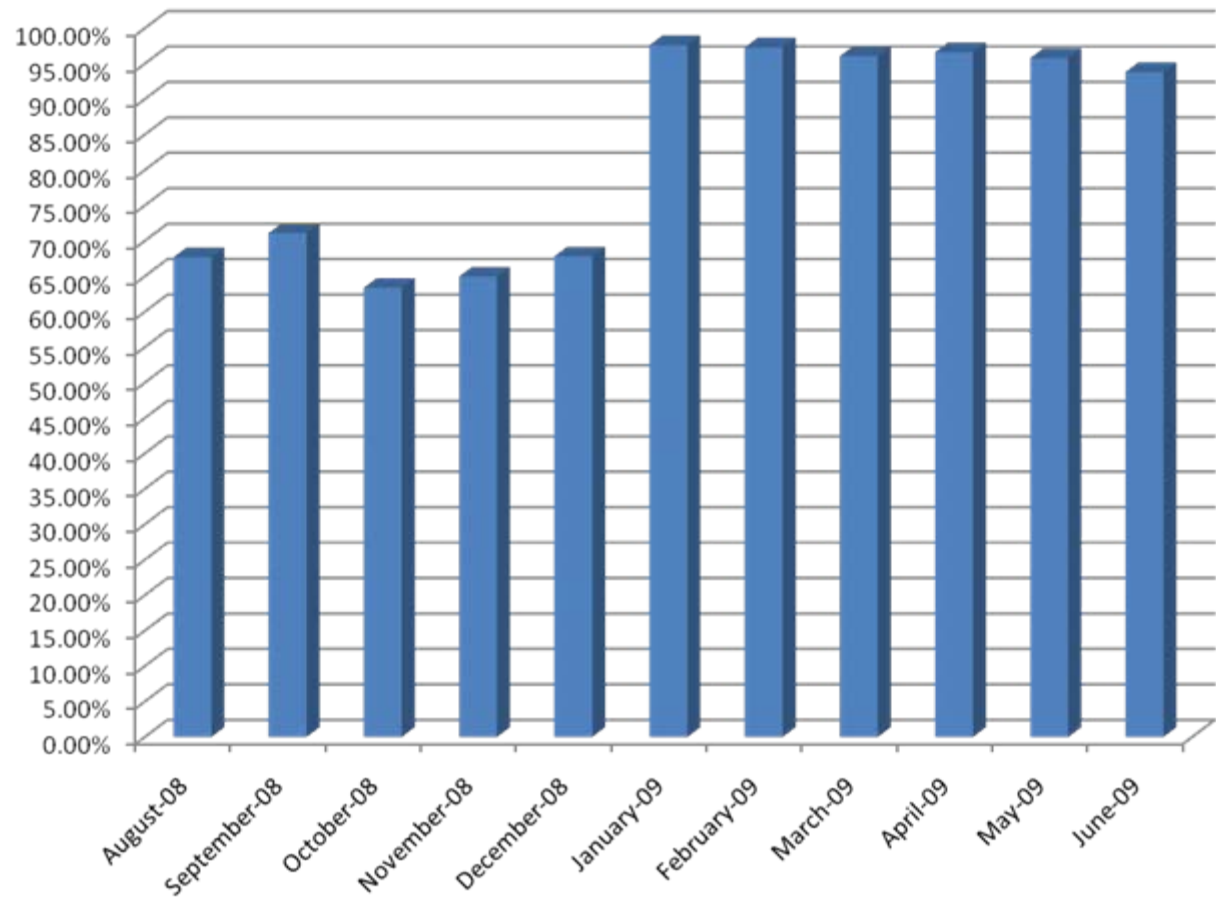
- Data from CQI Report is compared against group average (benchmark)
- A focused review is required for any physician or CRNA who does not meet established benchmarks
- Educational activities (mentoring, case studies, presentations, etc) are assigned.
- Performance for all physicians and CRNAs is reviewed on an ongoing basis.

Meeting the Challenge Putting EBM to Work

Patient Population =2457

% of CVL Protocol August 2008-June 2009

Aug-08	67.68% (134)
Sep-08	71.08% (118)
Oct-08	63.37% (128)
Nov-08	64.95% (126)
Dec-08	67.79% (141)
Jan-09	97.60% (122)
Feb-09	97.28% (179)
Mar-09	96.06% (195)
Apr-09	96.61% (171)
May-09	95.79% (190)
Jun-09	93.81% (197)



SAC website - Microsoft Internet Explorer provided by Southeast Anesthesiology

Address: https://www.seanesthesiology.us/reports/cqisummary.cfm

Quantum Clinical Navigation System

Home Input Reports Search Utilities Admin

Search Criteria

Start Date: 05/01/2008 End Date: 05/12/2008 Time Period: Month to Date Location: All Locations

Age Range: Minimum age: No minimum age Maximum age: No maximum age Insurance: -- Select Insurance Provider -- CPT Code: []

Anesthesiologist: -- Select a Physician -- Surgeon: -- Select a Surgeon -- CRNA: -- Select a CRNA --

Turn Denominator On Turn Denominator Off **Search** ?

[Printer Friendly Version](#)

Generated by: janetbeck Date Generated: 05/12/2008

**Southeast Anesthesiology Consultants, PA
Critical Quality Indicators Summary Report
For All Physicians
All Locations for 05/01/2008 - 05/12/2008
All Ages**

Indicator	05/01/2008	05/02/2008	05/03/2008	05/04/2008	05/05/2008	05/06/2008	05/07/2008	05/08/2008	05/09/2008	05/10/2008	05/11/2008	05/12/2008	Total
1: Abnormal EKG/Labs	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2: NPO Violation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3: Anesthesiologist Late	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4: Abnormal Labs	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
5: NPO Violation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

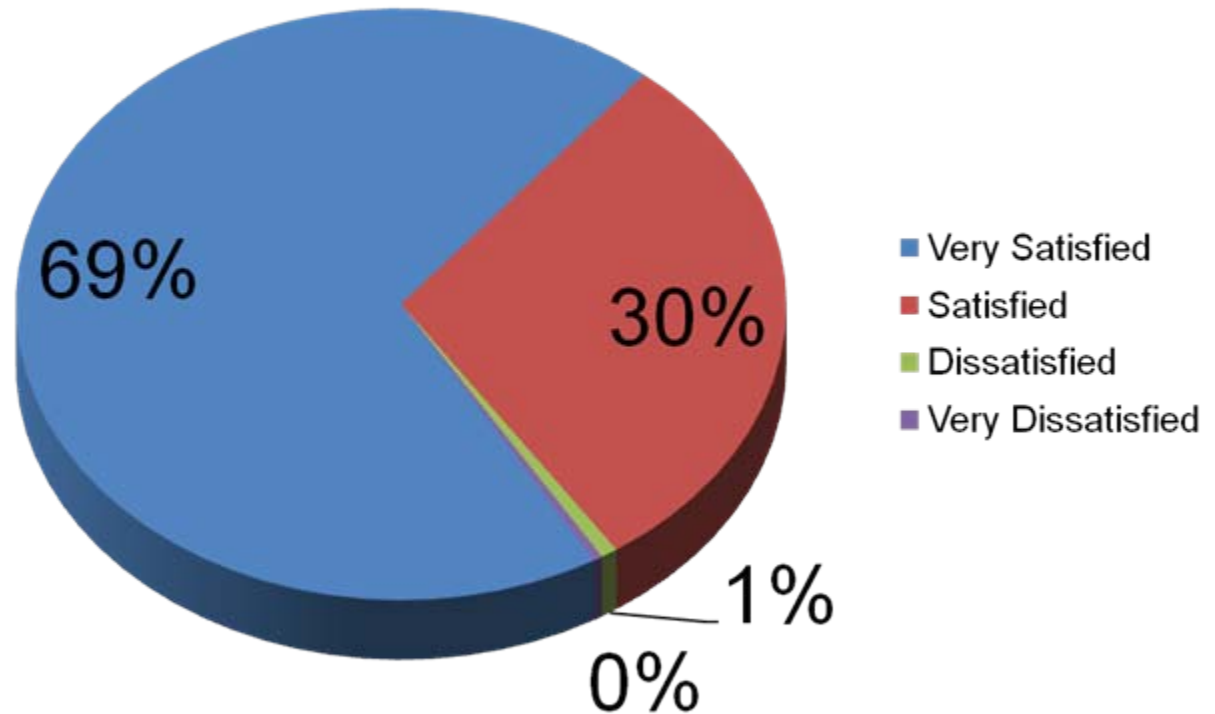
Error on page. Internet

Monitoring Practitioner Performance

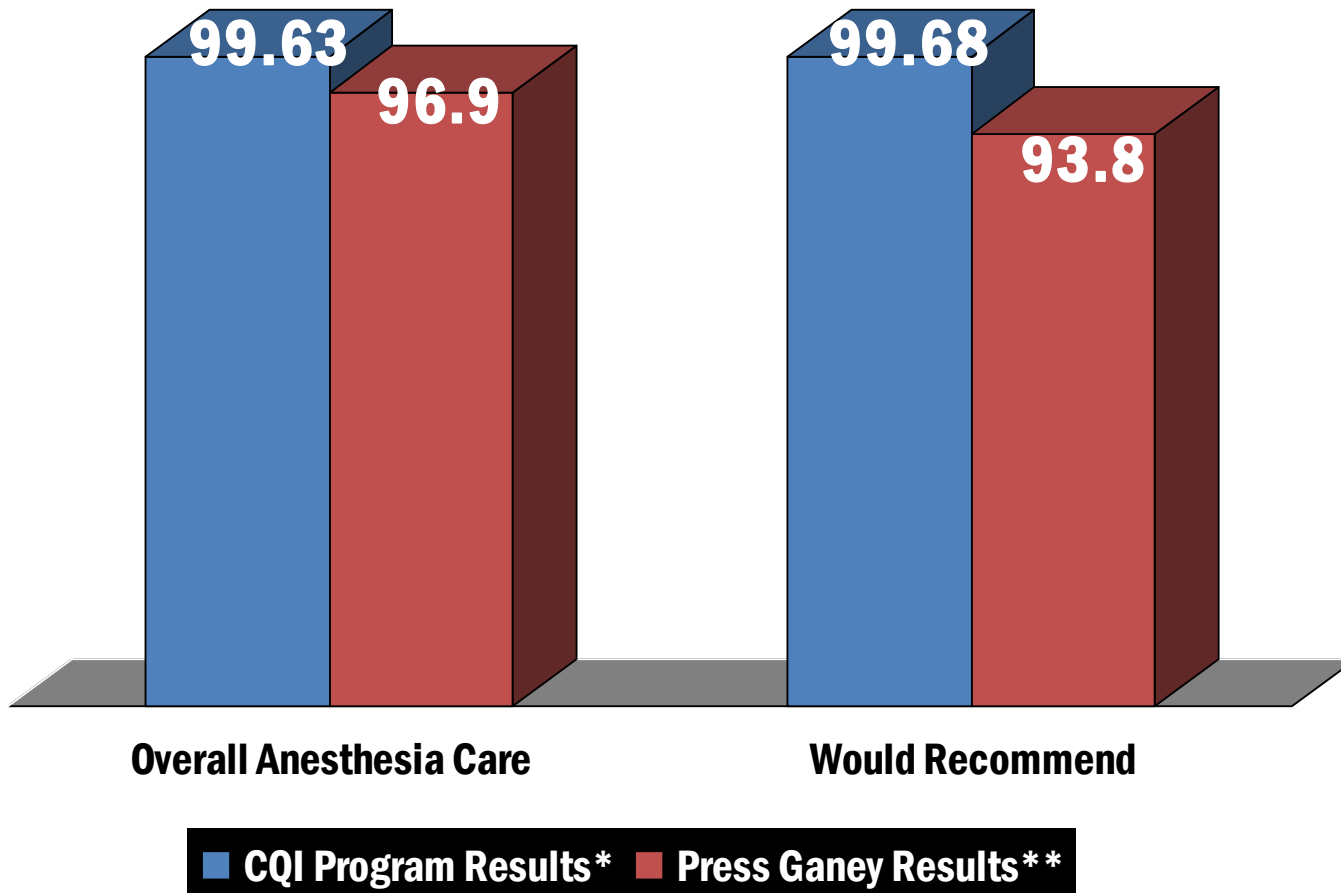
Anesthesiologists Performance Skill/Technical Ability CHS Medical Staff Survey 2005, 2007

99%

**Very Satisfied &
Satisfied with Skill
& Technical
Ability**



Patient Satisfaction Results Confirmed by Press Ganey



*29,722 patient surveys received. Confidence Level/Interval – CQI Results 99%± .52

**163 patient surveys received. Confidence Level/Interval – Press Ganey 95%±6.56

Benchmark Scorecards- Incentives through Competition

SAC website - Microsoft Internet Explorer provided by Southeast Anesthesiology

Address: https://www.seanesthesiology.us/reports/scorecard.cfm

Quantum Clinical Navigation System

Home Input Reports Search Utilities Admin

Search Criteria

Start Date: 04/12/2008 End Date: 05/12/2008 Time Period: -- Select Time Period -- Location: Carolinas Medical Center

Insurance: -- Select Insurance Provider -- CPT Code: []

Anesthesiologist: -- Select a Physician -- Surgeon: -- Select a Surgeon -- CRNA: -- Select a CRNA --

Search ?

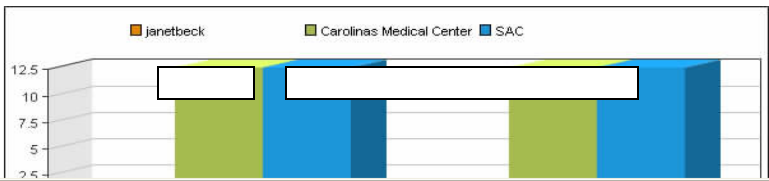
[Printer Friendly Version](#)

Generated by: janetbeck Date Generated: 05/12/2008

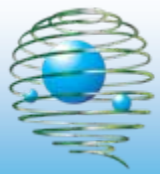
Southeast Anesthesiology Consultants, PA
Report Card
Carolinas Medical Center for 04/12/2008 - 05/12/2008

Efficiency Measures
(Top Score = 12.5% for each measure for a total of 25% per category)

janetbeck	0%
Carolinas Medical Center	25%
SAC	25%



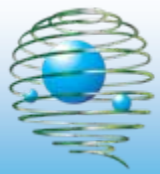
Legend: ■ janetbeck ■ Carolinas Medical Center ■ SAC



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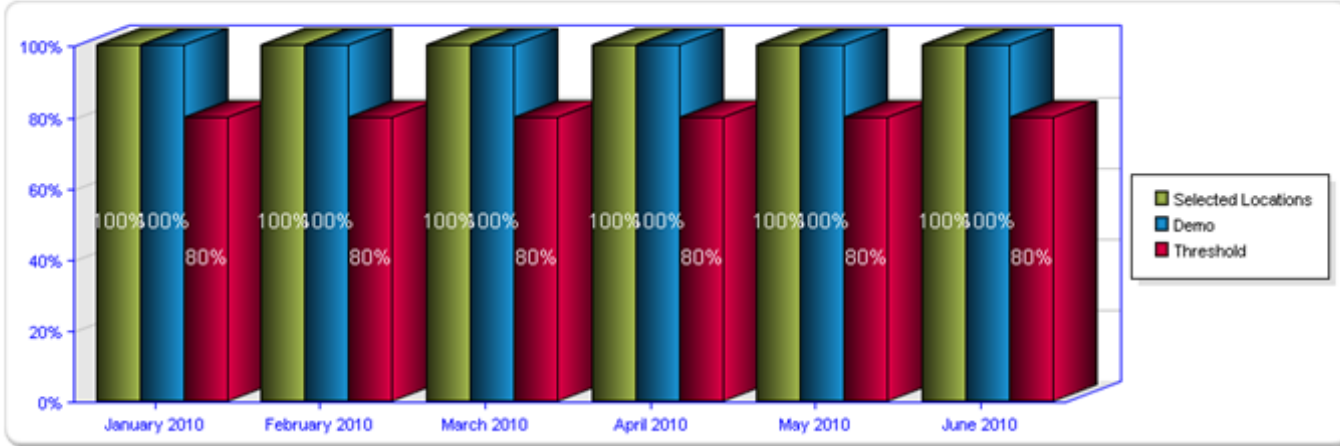
Positive Incentives Patient Satisfaction Award



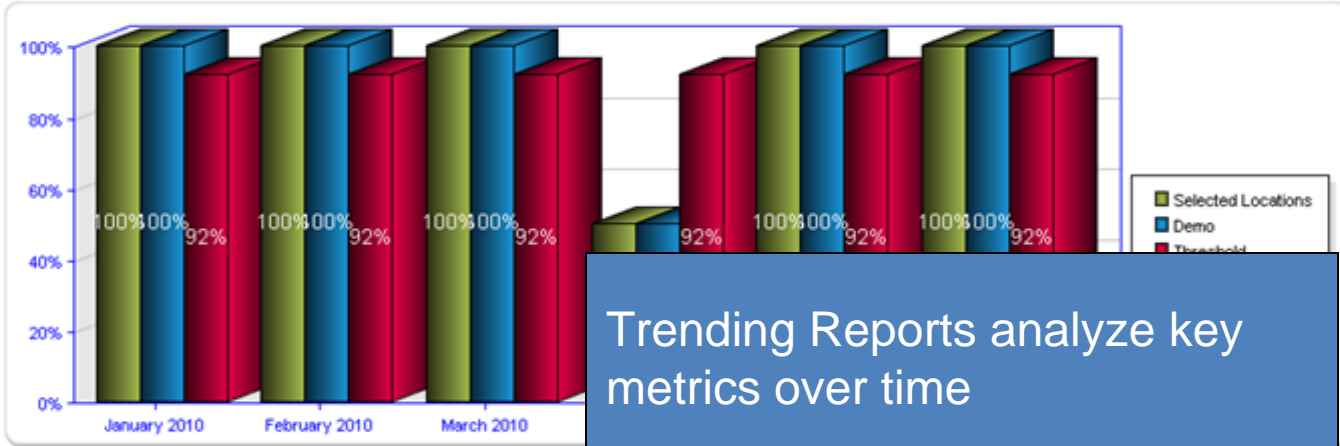


[Printer Friendly Version](#) | [Email Report](#)

Sleep apnea pt - OSA protocol impl



Periop BB given to pt on BB



Trending Reports analyze key metrics over time

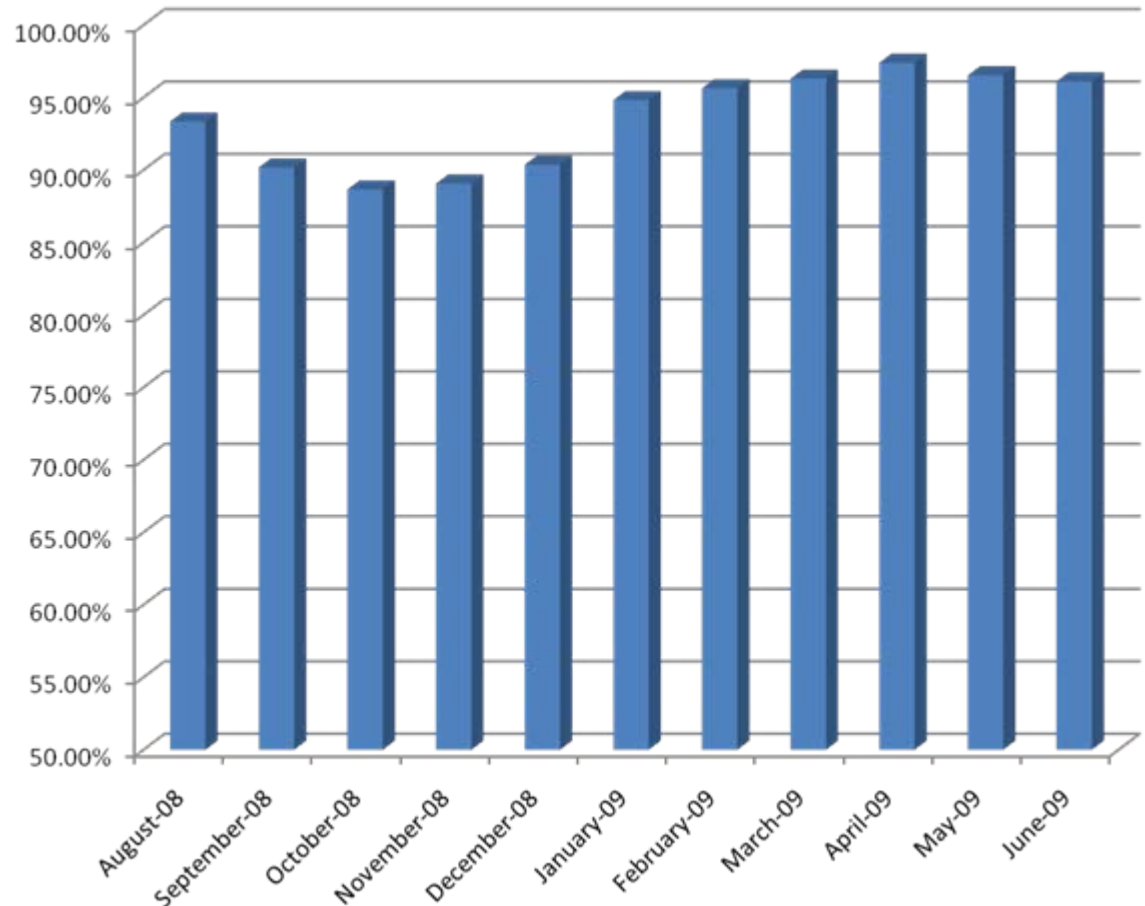
Antibiotic init w/in 1 hr pre-incision

Monitoring Compliance With EBM Antibiotic Protocol SCIP

Patient Population 45,574

Aug-08	93.34% (3448)
Sep-08	90.17% (3689)
Oct-08	88.65% (3398)
Nov-08	89.06% (3101)
Dec-08	90.36% (3120)
Jan-09	94.82% (3147)
Feb-09	95.64% (4260)
Mar-09	96.30% (4816)
Apr-09	97.39% (4546)
May-09	96.53% (4563)
Jun-09	96.11% (4664)

Antibiotic Administration Protocol August 2008-June 2009



Reporting Quality and Cost Savings - Antibiotic Administration

- Incidence Surgical Site Infections 3-5%
- Cost \$3,000; 7-9 hospital days*
- Appropriate administration of antibiotics decreases surgical site infection 40-80%
- Benchmark timing of antibiotics given appropriately 50-75%*

SAC:	100,000 patients/year
Incidence Surgical Site Infection average:	4,000 @ 4% infection rate
TOTAL Cost:	\$12 Million/year

- If antibiotics delivered 100% on time, surgical site infection decreases by 60%
 - ✓ (40%-80% = 60%) = \$7.2 million savings
- Benchmark antibiotics administration appropriately 62.5%
 - ✓ (50-75% average 62.5%) = \$4.51 million savings
- If SAC administers antibiotics 90% appropriately = **\$6.48 million savings**
- Estimated savings with protocol compliance= \$2.03 million per year
- Estimated National Savings with protocol compliance = \$528 million/year

*Cost & Benchmark source: Barnard, Bonnie MPH, CIC "Fighting Surgical Site Infections"

Lowering Costly Medical Errors

- **Out of 50 quality indicators tracked, the incidence of serious adverse events was less than 1%. In 2007 & 2008, information was collected on 183,423 patients.**

Results:	<u>SAC 2007</u>	<u>SAC 2008</u>	<u>National Benchmark**</u>
– Death	0.09%	0.11%	1.33%
– Death - Anesthesia	0.002%	0.00%	0.12 – 1.06%
– Cardiac arrest	0.13%	0.09%	0.44 – 1.72%
– Failed intubations	0.01%	0.02%	0.05%
– Myocardial infarction	0.02%	0.03%	0.19%
– <i>Stroke</i>	<i>0.02%</i>	<i>0.01%</i>	<i>< 1%</i>
– Recall	0.00%	0.02%	0.2%
– Pulmonary edema	0.06%	0.04%	7.6%

**National Benchmarks were obtained from the IOM Report, MEDLINE articles, and Evidence-Based Practice of Anesthesiology

Demonstrating Cost Savings Post-Operative Stroke

<u>Stroke</u>	<u># Patients</u>	<u>% Patients</u>
SAC	19	0.020%
National Benchmark*	476	0.5%

- Number of patients undergoing anesthesia annually: SAC-95,205 patients per year, US approximately 40 million patients per year.
- Cost at discharge for inpatient care per patient \$9,882**
 - ✓ Total cost SAC patients = \$ 187,758
 - ✓ Total cost National Benchmark = \$4,703,832
- Estimated savings to health plans/patients resulting from SAC reduced events = **\$4,516,074**
- Estimated national savings if benchmark reduced to SAC benchmark levels = \$1.897 Billion

*National benchmark is <1%, so .5% is used for calculation.

**Benchmark Source: Fleisher, Lee; "Evidence-based Practice of Anesthesiology, page 163.

**Cost Source: Neurology, Vol. 46, Issue 3, 854-860, 1996, American Academy of Neurology, "Inpatient costs of specific cerebrovascular events at five academic medical centers"


Efficiency and Patient Satisfaction Results Jan –March 2008
 from Southeast Anesthesiology Consultants
 Patients of Dr. Sample

Southeast Anesthesiology Consultant's CQI program tracks over 50 clinical quality indicators which measure efficiency, patient satisfaction, anesthesiologist's performance and clinical quality outcomes. Please find below scorecards measuring selected Efficiency and Patient Satisfaction indicators for your patients under our care.

Efficiency metrics that track anesthesia related events are completed for virtually every patient that undergoes anesthesia.

	Cases	Anesthesia Related Case Delays	Anesthesia Related Cancellations	Stroke	Awareness Under General Anesthesia
Dr. Sample	716	0.14%	0.00%	0.00%	0.00%
SAC Overall	44,160	0.08%	0.22%	0.02%	0.00%

	Medication Error (by Anesthesia Care Team)	Death	MI (Perioperative)	Wrong-Site Procedure Regional Block
Dr. Sample	0.02%	0.00%	0.00%	0.00%
SAC Overall	0.01%	0.09%	0.02%	0.00%

Patient satisfaction surveys include questions regarding whether the patient's overall anesthesia care was good or excellent and whether the patient would recommend Southeast Anesthesiology Consultants. SAC attempts to contact all anesthesia patients through personal patient interviews by CQI nurses or mailed surveys. Patient satisfaction surveys are completed on over 50% of patients that undergo anesthesia. Audits are performed to assure data capture and accuracy.

	Anesthesia Care Excellent/Good	Would Recommend SAC
Dr. Sample	99.38%	99.69%
SAC Overall	99.67%	99.79%

Your colleagues at Southeast Anesthesiology Consultants are committed to providing your patients with the highest degree of quality and customer focused anesthesia care. If you have any questions regarding these results, please contact your local Chief, Department of Anesthesiology or Janet Beck, CPHQ, Director of Quality Assurance at Southeast Anesthesiology Consultants – 704-377-5772, ext 5402.

Test Surgeon Efficiency 1/01/08-3/31/08

Total Cases Measured	716
Confidence Level/Confidence Interval	>95%/5.0
Unplanned Case Cancellation Day of Surgery	0
Percent of Cases Cancelled	0.00%
Case Delay Due to Anesthesiologist Late	1
Percent of Case Delayed Due to Anesthesiologist Late	.14%

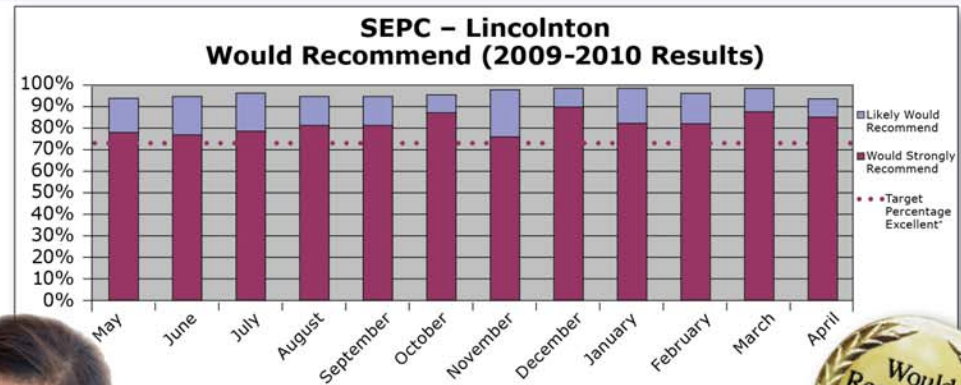
Test Surgeon Patient Satisfaction 1/01/08-3/31/08

Surveys Received	336
Confidence Level/Confidence Interval	<95%/5.0
Met anesthesia rep before surgery	94.31%
Questions answered prior to surgery	99.40%
Anesthesia team responsive to needs	99.37%
Overall care "excellent" or "good"	99.38%
Would recommend anesthesia services	99.69%

Reporting Patient Satisfaction



We Make Your Patients Feel Better and
Our Referring Physicians Look Good.



*According to national marketing research firm guidelines for outpatient services, 72.1% Would Strongly Recommend is equivalent to the 90th percentile.



**Focused Pain Relief.
Individual Patient Care.™**



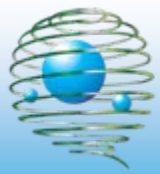
Your Impression Counts!

Referring Physicians
Rank SEPC
4.5 Out Of 5
For Impression
Of Care.

Focused Pain Relief.
Individual Patient Care.™



- ✓ Health Care Reform – a new Paradigm focused on proving quality and controlling costs
- ✓ Developing a clinician oriented IT driven continuous quality improvement system
 - ✓ Getting physician buy-in
- ✓ Assuring individual practitioner performance along with identifying and reducing systems errors
 - ✓ Incentives – beyond the Hawthorne Effect
 - ✓ Reporting Your Great care



Quantum
CLINICAL NAVIGATION SYSTEM™

Thank you



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