

## Value in Anesthesiology: How to Survive in the World of Value?

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## Disclosures

- None

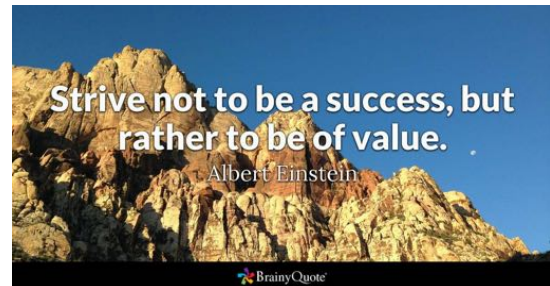


## Objectives

- What is value anyway?
- What can anesthesiologists do to increase value?
  - Pre-procedural assessment centers
  - Standardize perioperative care
  - Pain management services
  - Sedation services
  - Critical care



## Value



## What is Value? (Noun)

- The regard that something is held to deserve; the importance, worth, or usefulness of something.
  - "your support is of great value"
- The material or monetary worth of something.
  - "prints seldom rise in value"
- The worth of something compared to the price paid or asked for it.
  - "at \$12.50 the book is a **good value**"



Google Dictionary

## What is Value? (Noun)

- A person's principles or standards of behavior; one's judgment of what is important in life.
  - "they internalize their parents' rules and values"
- The numerical amount denoted by an algebraic term; a magnitude, quantity, or number.
  - "the mean value of x"



Google Dictionary

### What is Value?

- Depends who's asking...
- CMS/IHI
- Hospitals and hospital systems
- Patients
- Surgeons



### What is Value? (Institute for Healthcare Improvement)

- Improve and optimize the "Triple Aim"
  - Patient experience
  - Health care costs (i.e. decrease)
  - Population health
- Quadruple aim
  - The work life of healthcare providers including physicians and staff



### What is Value for Patients, Hospitals and Physicians ?

- The triple aim applies to all of us...
- Improve and optimize the "Triple Aim"
  - Improve patient experience
  - Health care costs (i.e. decrease)
  - Population health



### What is Value?

- Improve Patient experience ("Patient centered")
  - Make care more convenient, predictable and timely
  - Decrease pain
  - Decrease nausea and vomiting
  - Do more as out patients
  - If in the hospital, go home sooner and don't come back!!
  - Decrease costs



### What is Value?

- Decrease health care costs
  - Decrease length of stay
  - Decrease readmissions
  - Standardize care
  - Improve perioperative processes and systems
- Population health
  - Do all of above (and more) for the population you serve




### What Can Anesthesiologists do to Increase Value?



### Is Anesthesiology Ready for 21<sup>st</sup> Century



Longnecker Anesth 1997;86;736

- Anesthesiologists must engage in a broader role-
  - Preop evaluation
  - Acute/chronic and cancer pain
  - Critical care
  - Palliative/hospice and home care
- *Should we stay in OR or have a greater commitment to new forms of clinical practice, education and research?*




### What Can Anesthesiologists do to Increase Value?

- Pre-procedural assessment centers
- Perioperative care
  - Perioperative surgical home
  - Enhanced recovery
- Pain management services
- Sedation services
- *Critical care services (Topic for another day!)*






### Pre-procedural Assessment Centers



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“Yes, tobacco counts as a leafy vegetable. But only if you're eating it as a salad.”

### Pre-procedural assessment centers 1949!?


- Lee first described the notion of an outpatient PAT clinic in **1949**.....
- However, Lee proposed that:
- *“the patient should rather be seen as soon as the surgeon schedules the patient and the PAT clinic should facilitate the patient arriving in the operating room medically optimized.”*

Lee JA. The anaesthetic out-patient clinic. *Anaesthesia*. 1949;4(4):169-174.



### Value of Preop Clinics


- Great Infographic in Anesthesiology
  - Wanderer et al *Anesthesiology* August 2016
- (1996) *Development and effectiveness of an anesthesia preoperative clinic in a teaching hospital.*
  - Fischer et al *Anesthesiology* 1996, 196-206
  - First to show reduction in testing and case cancelations



Wanderer et al *Anesthesiology* August 2016

### Value of Preop Clinics

- (1998) *Anaesthesia preadmission assessment: A new approach through use of a screening questionnaire.*
  - Badner et al *CJA*, 1998, 87-92
  - First to describe a tool to screen pts who do NOT need to be seen



Wanderer et al *Anesthesiology* August 2016

## Value of Preop Clinics

- (2002) *How preoperative assessment programs can be justified financially to hospital administrators.*
  - Gibby et al Int Anesth Clin 2002, 17-30
  - Great template to use when talking with your hospital



Wanderer et al Anesthesiology August 2016

## Value of Preop Clinics

- *Preoperative Evaluation Clinic Visit Is Associated with Decreased Risk of In-hospital Postoperative Mortality*
  - Blitz et al, Anesthesiology 2016; 125:280-94
- A retrospective review.
- 46 deaths from 64,418 patients (0.07%):
  - 22 from 35,535 patients (0.06%) seen in PEC and
  - 24 from 28,883 patients (0.08%) not seen in PEC.



## Value of Preop Clinics

- **Results:** A visit to PEC was associated with a reduction in mortality (odds ratio, 0.48; 95% CI, 0.22 to 0.96,  $P = 0.04$ )
  - sub analysis suggested that the proportion of deaths attributable to an unanticipated surgical complication was not significantly different between the two groups ( $P = 0.141$ ).
- **Conclusions:** An in-person assessment at the PEC was associated with a reduction in in-hospital mortality.



Blitz et al, Anesthesiology 2016; 125:280-94

## Value of Preop Clinics

- Other opportunities
  - Medication reconciliation
  - Pain management consults
  - Nutrition
  - Frailty assessments
  - “prehabilitation”
  - Pulmonary prehabilitation
  - Discharge planning, social work, etc.
  - Smoking cessation
  - Anemia evaluation and treatment



## Value of Perioperative Management



## *Enhanced recovery after surgery in the setting of the perioperative surgical home*


Paiste et al, Int Anesth Clinics 2017, 135-137

- ERAS
  - “evidence-based, fast tracked-approach to surgery...relies upon perioperative protocols to attenuate the stress response during the entire perioperative period...early and optimal recovery”




*Enhanced recovery after surgery in the setting of the perioperative surgical home*  
Paiste et al, Int Anesth Clinics 2017, 135-137

- PSH
  - “Physician-championed, institution –supported, well coordinated, patient centered, interdisciplinary model of care”
  - 3 keys:
    - Entire episode of care
    - Patient-clinician shared decision making
    - Patient centered

**Value of Perioperative Management**

- ERAS
  - 1995-early recovery after lap colon surgery
  - Multiple studies have shown
    - Decrease in LOS
    - Decreased complications
    - Earlier return to work
    - Improved self reported quality of life
  - (Excellent review on how to actually do this)





Paiste et al, Int Anesth Clinics 2017, 135-137

*A case management report: a collaborative perioperative surgical home paradigm and the reduction of total joint arthroplasty readmissions*  
Alem et al Perioperative Medicine 2016, 5:27



- 2 year follow up after implementation of PSH
  - 328 elective TJA
    - 72% ASA 3

Group	4.6%	30d-Readmit %	95% CI	P-value
Pts after PSH		2.1	0.4-3.8	
Meta-analysis (9 trials)		5.5	4.5-6.7	0.014
Medicare estimate		4.6		

*The perioperative surgical home: improving the value and quality of care in total joint replacement.*  
Chimento et al, Curr Rev Muskskel Med 2017, 365-369

- Several studies have shown:
  - Improved preop discharge planning
  - Improved analgesia
  - Improved OR efficiency
  - Decreased LOS
  - Decreased costs



*The perioperative surgical home: improving the value and quality of care in total joint replacement.*  
Chimento et al, Curr Rev Muskskel Med 2017, 365-369

- “The PSH pathway is a safe and effective method of providing value based care to patients undergoing hip and knee arthroplasty”




**Value of Perioperative Management**

- *Evolving healthcare delivery paradigms and optimization of “value” in anesthesiology*
  - Alem and Kain, Cur Opin in Anesth 2016, 223-229
    - Comprehensive review and bibliography of this topic
- “..the scope of anesthesiology education and clinical practice should diversify to further integrate perioperative care of surgical patients”

## Value of Pain Management



## Value of Pain Management

- Great Infographic in *Anesth Analg*
  - Wanderer et al *Anesth Analg* October 2017
- Optimize the triple aim!
- Chronic post-surgical pain (CPSP)
  - \$638 Billion/yr in US
  - Incidence 10-80%
  - Risk factors
    - Preop pain, anxiety, depression, catastrophizing



Wanderer et al *Anesth Analg* October 2017

## Value of Pain Management

- Value of a periop pain service:
  - Identify at risk patients
  - Reduce variability in treatment of pain
  - Integrate ALL periop care



Wanderer et al *Anesth Analg* October 2017

### *The perioperative surgical home: a new role for the acute pain service*

Zaccagnino *Anesth Analg* 2017, 1394-1402

- Current perioperative pain management is fragmented
- Anesthesiologist led PPS take lead in reducing the opioid epidemic
- The authors propose
  - Preoperative assessment and risk stratification
  - Standardized intra AND post op protocols
  - Post discharge planning
    - ?Started preop for highest risk



### *The perioperative surgical home: a new role for the acute pain service*

Zaccagnino *Anesth Analg* 2017, 1394-1402

- How do you pay for it?
- Leverage existing Preop clinic and pain services
- The authors (Brigham and Women's)
  - Billed for preop pts at risk for CPSP
  - Billed for in-hospital rounding
  - Billed for coordinating discharge plans
  - Billed for follow up (pain) visit



### *Opioid-free analgesia in the era of ERAS and the PSH: Implications for population health*

Kamdar *Anesth Analg* 2017, 1089-1091

- Opioid overdose leading cause of accidental death....19,000 cases a year in US
  - Perioperative physicians responsible for some
- Opioid sparing or opioid-free analgesia should become a key part of PSH/ERAS



*Opioid-free analgesia in the era of ERAS and the PSH: Implications for population health*  
Kamdar Anesth Analg 2017, 1089-1091

- “A unified voice from anesthesiologists and surgeons...to commit to OFA, beginning with ERAS protocols...will demonstrate that our specialty is addressing national public health epidemics...”



## Value of Sedation Services



Growth in an Anesthesiologist- and Nurse Anesthetist-Supervised Sedation Nurse Program Using Propofol and Dexmedetomidine

Thomas et al A & A Case Reports 402-10, 2016

- 2008-propofol and dexmedetomidine administration by nurses was approved in Iowa
- 11,038 elective sedation cases done between January 1, 2007, and June 30, 2014.
- Caseload increased from 170 to 470 cases/quarter.
- Propofol use increased from 0% to approximately equal to 70% of cases
- Dexmedetomidine from 0% to approximately equal to 25% of cases.



Growth in an Anesthesiologist- and Nurse Anesthetist-Supervised Sedation Nurse Program Using Propofol and Dexmedetomidine

Thomas et al A & A Case Reports 402-10, 2016

- The number of nurses working each day (on average) increased from 2.2 to 4.7
- Supervising providers remained at 1/day.
- There were no changes in general anesthesia or monitored anesthesia care cases performed for comparable procedures.
- Trained, supervised nurses can safely administer propofol or dexmedetomidine to selected patients for a wide variety of procedures.



## Value of sedation services

- SCAI/CCAS/SPA Expert Consensus Statement for Anesthesia and Sedation Practice: Recommendations for Patients Undergoing Diagnostic and Therapeutic Procedures in the Pediatric and Congenital Cardia Catheterization Laboratory  
– Odegard et al. Anesth and Analg 2016, 1201



## SCAI/CCAS/SPA Expert Consensus Statement

- Provider expertise needed
- CRISP score 0-1  
– Sedation team (non-anesthesiologist)
- CRISP score 2-4  
– Anesthesiologist with expertise in CHD
- CRISP score >4  
– Pediatric cardiac anesthesiologist



Odegard et al. Anesth and Analg 2016, 1201

What Can Anesthesiologists do to  
Increase Value?

**We can (and are) doing a lot!**

- Pre-procedural assessment centers
- Perioperative care
  - Perioperative surgical home
  - Enhanced recovery
- Pain management services
- Sedation services
- *Critical care services (Topic for another day!)*

