HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

The Salary Surveys: What's Available and What Should You Use as Your Gold Standard for Negotiating With Your Health-System (Background of SAAA Survey)

Kevin K. Tremper, M.D., Ph.D.

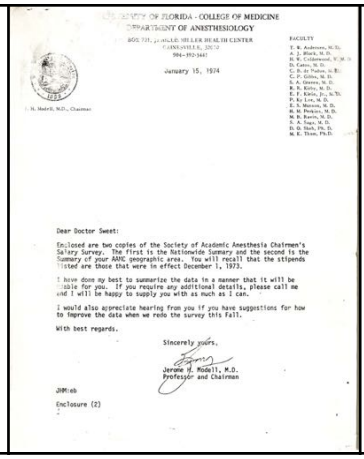
11/11/2016
8:00am – 8:10am

The Salary Surveys: What's Available and What Should You Use and Your Gold Standard for Negotiating with Your Health System

Kevin K. Tremper, PhD, MD
Professor and Chair
Department of Anesthesiology
University of Michigan

Outline

- Kevin Tremper: SAAC Survey
- James Grant: MGMA Survey
- Charles Whitten: AAMC Survey
- Ellise Delphin: SAAA Survey



UNIVERSITY OF FLORIDA - COLLEGE OF MEDICINE
DEPARTMENT OF ANESTHESIOLOGY

January 15, 1974

Dear Doctor Sweet:

Enclosed are two copies of the Society of Academic Anesthesia Chairmen's Salary Survey. The first is the Nationwide Summary and the second is the Summary of your AAMC geographic area. You will recall that the stipends listed are those that were in effect December 1, 1973.

I have done my best to summarize the data in a manner that it will be usable for you. If you require any additional details, please call me and I will be happy to supply you with as much as I can.

I would also appreciate hearing from you if you have suggestions for how to improve the data when we redo the survey this Fall.

With best regards.

Sincerely yours,

Jerome H. Modell, M.D.
Professor and Chairman

JHM:eb

Enclosure (2)

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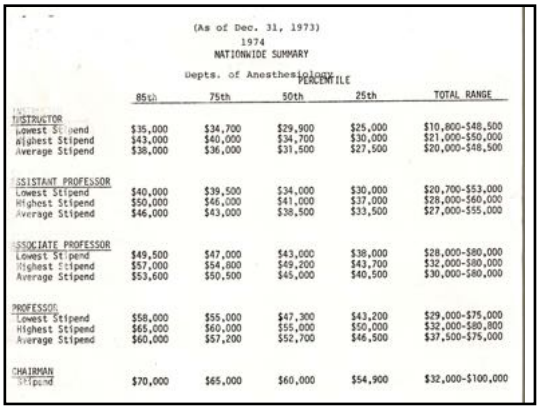


(As of Dec. 31, 1973)
1974
NATIONWIDE SUMMARY
Depts. of Anesthesiology

	PERCENTILE 85th	75th	50th	25th	TOTAL RANGE
INSTRUCTOR					
Lowest Stipend	$35,000	$34,700	$29,900	$25,000	$10,800-$48,500
Highest Stipend	$43,000	$40,000	$34,700	$30,000	$21,000-$50,000
Average Stipend	$38,000	$36,000	$31,500	$27,500	$20,000-$48,500
ASSISTANT PROFESSOR					
Lowest Stipend	$40,000	$39,500	$34,000	$30,000	$20,700-$53,000
Highest Stipend	$50,000	$46,000	$41,000	$37,000	$28,000-$60,000
Average Stipend	$46,000	$43,000	$38,500	$33,500	$27,000-$55,000
ASSOCIATE PROFESSOR					
Lowest Stipend	$49,500	$47,000	$43,000	$38,000	$28,000-$80,000
Highest Stipend	$57,000	$54,800	$49,200	$43,700	$32,000-$80,000
Average Stipend	$53,600	$50,500	$45,000	$40,500	$30,000-$80,000
PROFESSOR					
Lowest Stipend	$58,000	$55,000	$47,300	$43,200	$29,000-$75,000
Highest Stipend	$65,000	$60,000	$55,000	$50,000	$32,000-$80,800
Average Stipend	$60,000	$57,200	$52,700	$46,500	$37,500-$75,000
CHAIRMAN					
Stipend	$70,000	$65,000	$60,000	$54,900	$32,000-$100,000

Rebecca Lovely Celebrates Retirement from UF Department of Anesthesiology after 40 Years of Service: SAAC Salary Survey 1974 to 2011

1990s : A Decade of Change

1. Managed Care: FFS → Capitation
   - Risk Shifting to Provider
   - Primary Care Gate Keepers
   - Academic Centers Poorly Positioned

1990s : A Decade of Change

2. Push for Primary Care: 50/50
   - GME Cap
   - 50/50 Plan
   - "Anesthesia for Food": The Wall Street Journal, 1995
3. BBA: Academic Depts in Jeopardy
   - Cost Shifting Hospital → Depts

1994 Abt Associates Inc.

- Care Model
  - Physician Intensive vs CRNA Intensive
- Assumed Slow Growth in Procedures: Managed Care?
- Neglected Growth in Subspecialties e.g.. Pain

Match Day 1996

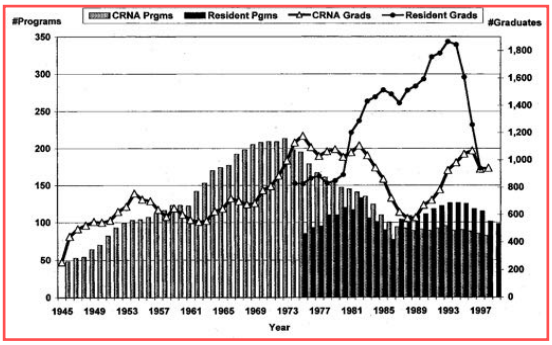
A Confluence of Three Forces

- ↓ Department Professional Fee $
- ↓ Residents → ↓ Faculty
- BBA → ↓ Hospital $ → ↓ Dept. $

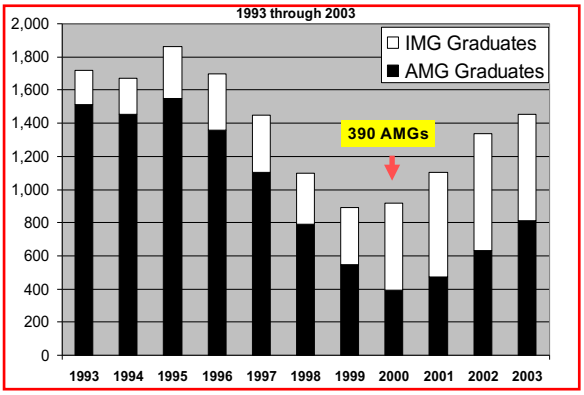
1. Manpower in Anesthesiology

- August 2000 Estimated 490 Open Faculty Positions
- Market Forces at Work ? ↓ Supply → ↑ Demand….. but $?
- How Much is Enough? Abt Report

Number of Anesthesiology Resident & CRNA Programs & Graduates - 1945 to 1997

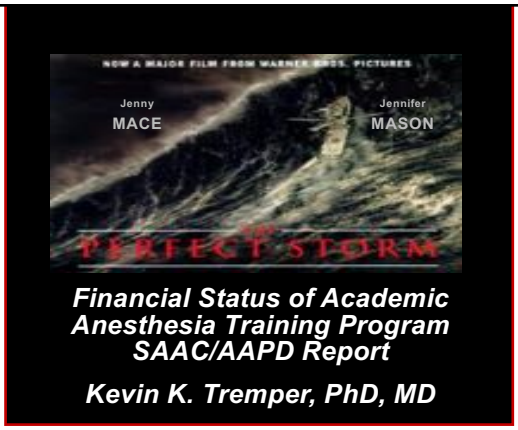


AMG and IMG Residents Graduates



1999 SAAC/AAPD Council Meeting
Simon Gelman, MD
"White Paper" on the status of our Training Program

- Kevin Tremper, Chair
- Steven Barker
- Simon Gelman
- Calvin Johnson
- Joseph Reeves
- Albert Saubermann



Financial Status of Academic Anesthesia Training Program SAAC/AAPD Report

Kevin K. Tremper, PhD, MD

Conclusion

- Manpower shortage → worse for Academic
- ↓ Pro fees → also worse for Academic
- Academic departments pay ↑ overhead expenses

↓

44% Departments in the RED

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Association of Academic Anesthesiology Chairs

The Salary Surveys: What's Available and What Should You Use as Your Gold Standard for Negotiating With Your Health-System (MGMA Survey)

James D. Grant, M.D.

11/11/2016
8:10am – 8:20am

MGMA Survey

James D. Grant, MD MBA
President-elect
American Society of Anesthesiologists
Chair, Anesthesiology
Beaumont Health – Royal Oak Hospital
Royal Oak, Michigan

MGMA Data

- Data from more than 60,000 providers in 170 specialties
- Most comprehensive dataset in the country with the largest "n"
  - Anesthesiology has more than 2100 respondants
- Been in use for more than 35 years
- Federally recognized databank for fair market value
- Collects data on academic and non-academic practices, physician and hospital-owned practices
- Allows for filtering of comprehensive metrics

MGMA Data

- Collects data on academic and non-academic practices, physician and hospital-owned practices
- Allows for filtering of comprehensive metrics
- Survey multiple categories including RVU's (production)
  - Eliminates payer mix issues
- Specialty is self-selected and must contribute at least 60% of your time in that specialty

MGMA Data

- Information is presented solely for the purpose of informing recipients of the ranges of medical practice compensation, charges and revenue reports both for their member and non-member organizations
- Data may not be used for the purpose of limiting competition restraining trade or reducing or stabilizing salary or benefit levels
- MGMA data came from 2,660 physicians, in 1441 practices, both academic and non-academic
- MGMA has the most detail
  - Region, type and size of practice, years in practice

MGMA Data

- Medical Directorships
  - Stipends and deferred compensation
  - Regional differences were significantly higher
    - Median on the east coast was 10 times higher than in the Midwest

Journey

- Private Practice without a residency
- Private Practice with a residency
- Private Practice with a residency and new Medical School
- Corporate National Practice with a residency and new Medical School

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The Salary Surveys: What's Available and What Should You Use as Your Gold Standard for Negotiating With Your Health-System (AAMC Survey)

Charles W. Whitten, M.D.

11/11/2016
8:20am – 8:30am

Charles W. Whitten, M.D.
Professor and Chairman
Margaret Milam McDermott Distinguished Chair
in Anesthesiology and Pain Management
Department of Anesthesiology and Pain Management

The Salary Surveys:
What's Available and What Should You Use as Your Goal Standard for Negotiating With Your Health-System:
The AAMC Survey

UT Southwestern Medical Center 5323 Harry Hines Boulevard Dallas, Texas 75390-9068 Office: (214) 648-5413 Fax: (214) 648-5461

Conflict of Interest & Why am I Qualified to do This?

- I have no conflicts except:
  1) I have a long standing interest in the economics of academic anesthesia practice dating back to collaborations which began with Amr Abouleish and other in the late 1990's.
  2) We continue to perform collaborative research utilizing national databases.
- At UTSW we have recently undergone over $2 billion of health care construction on Harry Hines Blv., in Dallas, Texas. Our hours of operation/sites of service have increased by almost 50% in the last year. Case volume in 2015 was greater than 150,000 Anesthetics.

General Survey Information

- The data from this survey are used to help Deans assess their compensation to assist individuals at medical schools and other organizations who need to set or evaluate compensation for Deans or comparable positions.

Instructions and Definitions

Includes:
- Only 12-month salaries for full-time paid faculty, chairs, and chiefs by department or division.
- Full salary of faculty on sabbatical leave.
- All full-time research faculty regardless of tenure status.
- Employee retirement contributions as part of the salary reduction program.

Excludes:
- Full salary for vacant positions.
- Employer retirement contributions as part of a salary reduction program.

Rank

- For purposes of this survey, a Chief is defined as the head of the unit, just smaller than the department, while a Chair is defined as the head of the department . If a person is both a Chair and a Professor, please indicate Chair. If a person is both a Chief and a Professor, please indicate Chief.

Compensation

- The compensation reported should reflect the total amount before deductions are made for taxes and retirement set-asides. No benefits or services provided by the institution should be considered in determining compensation. All source of income (for example, income from the medical school and affiliated institutions) should be included.

Compensation Component Definitions

- Fixed / Contractual Salary: Compensation, exclusive of fringe of benefits, that was fixed at the beginning of the fiscal year and contractually obligated to the faculty member for that year assuming satisfactory performance.

Compensation Component Definitions

Medical Practice Supplement:

- Income that was not fixed at the beginning of the fiscal year but was directly tied to the amount of medical practice earnings during the year derived from the institutionally controlled or affiliated source.

Compensation Component Definitions

Bonus/Incentive Pay:

- Income earned by the faculty member as a result of the achievement of specific performance goals by the individual or the department or institution. Examples of bonus/incentive pay are:
  - Year-end bonus from a faculty practice plan.
  - Incentive earnings according to the practice plan.
  - Outside earnings where limited or controlled by the institution.

Compensation Component Definitions

Uncontrolled Outside Earnings:

- Known but unregulated outside professional income related to the health professions (e.g., patient services income, royalties, and consulting fees). Do not report income from affiliated institutions in uncontrolled Outside Earnings; report income from affiliated institutions in Fixed Salary, Medical Practice Supplement, and/or Bonus Pay, as appropriate.

At UTSW 2 of our 5 affiliated institutions utilize the AAMC survey for contracting anesthesiology services. They do this in distinctly different ways.

SAAA 2015 Compensation Total Compensation Including Income Plus Pension Contributions

Compensation Includes Income Plus Pension Contribution	25%	Median	75%
Instructor	256,059	280,000	312,910
Assistant Professor	308,560	336,400	367,289
Associate Professor	333,880	372,909	403,753
Professor	349,318	391,707	428,370
Chair	520,000	568,560	632,575

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AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Total Anesthesiology	Chair	526	589	663
Total Anesthesiology	Chief	362	416	468
Total Anesthesiology	Professor	336	386	437
Total Anesthesiology	Associate Professor	323	370	420
Total Anesthesiology	Assistant Professor	298	341	385
Total Anesthesiology	Instructor	231	282	340

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AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: General	Chair	524	588	661
Anesthesiology: General	Chief	366	414	475
Anesthesiology: General	Professor	336	386	434
Anesthesiology: General	Associate Professor	325	367	416
Anesthesiology: General	Assistant Professor	297	341	385
Anesthesiology: General	Instructor	232	287	342

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AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: Pain Management	Chair			
Anesthesiology: Pain Management	Chief	407	441	464
Anesthesiology: Pain Management	Professor	320	350	405
Anesthesiology: Pain Management	Associate Professor	301	330	381
Anesthesiology: Pain Management	Assistant Professor	289	323	388
Anesthesiology: Pain Management	Instructor	215	255	326

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AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: Pediatric	Chair			
Anesthesiology: Pediatric	Chief	407	386	418
Anesthesiology: Pediatric	Professor	352	411	466
Anesthesiology: Pediatric	Associate Professor	342	407	441
Anesthesiology: Pediatric	Assistant Professor	309	351	385
Anesthesiology: Pediatric	Instructor	232	257	319

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Hospital A

- Works with us and other clinical departments in the divisional guarantee model to calculate the cost of coverage.
- They utilize 50% compensation for the Associate Professor level (Hospital A is stil utilizing 2013 data).
- We collectively work with Hospital A to determine the number of FTE's necessary to provide the sites of service and hours of operation to cover their facility.
- This methodology potentially provides return on investment.

Hosital B

- Utilizes AAMC data as they provide support to the department based on 50% data for each faculty assigned at specific academic rank assigned to that facility.
- This covers your actual cost.
- This model provides no margin.


Thank you
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The Salary Surveys: What's Available and What Should You Use as Your Gold Standard for Negotiating With Your Health-System (SAAA Survey)

Ellise Delphin, M.D., M.P.H.

11/11/2016
8:30am – 8:40am

SAAA Salary and Practice Survey

Ellise Delphin MD. MPH
Professor and Chair
Department of Anesthesiology
Albert Einstein College of Medicine
Montefiore Medical Center

- No conflicts of interest

Learning Objectives

- Upon completion of this learning activity, participants should be able to…..
  - Describe the methodology used to assess the status of faculty and finances in the SAAA survey
  - Compare this methodology to that used for the AAMC and MGMA surveys
  - Create a construct for applying SAAA survey results to negotiate with your healthcare system

Responsibilities of Department Chairs in the School of Medicine

- Strategic Planning
- Faculty
- Promotion of Teamwork
- Educational and training programs
- Research programs
- Patient care programs
- Facilities
- Finances and Budget
- Remuneration of Departmental Personnel
- Cultural Values

- Dean's Office University of Virginia
- 12/12/15

Chair of a Department – Now a Different Job

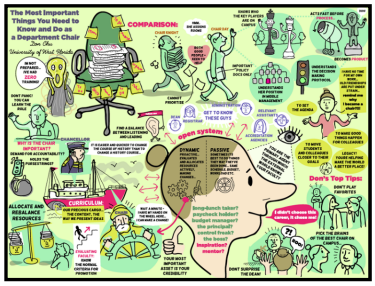
- "more administrative and less academic as the financial managerial roles of chairs have increased and the size of departments have grown"
- "increasingly dependent on the support of executives at their university hospitals who as the source of funds and facilities…."

- Kastor J: Academic Medicine, July 2013

Chair

- " responsible for growing clinical volume and ensuring quality across several hospitals and…education programs for students, residents and fellows. All this occurs in the highly competitive, corporate environment of health care delivery, reporting to deans who are beholden to CEOs or, in effect, reporting to the CEO directly."

- Ende J: Academic Medicine, June 2013



- If you've seen one academic institution … Then you've seen one academic institution. Each is riddled with individual challenges and interactions. It is the chair's responsibility to navigate the individual program and ensure it's success. However there are trends in clinical and financial areas that bond all practices.
- A survey producing a snapshot of clinical and financial trends is a powerful tool.

SAAA survey

- Provide Chair with a framework to plan for the future
- Provide information to medical school deans and hospital administrators
  - Specialty specific
  - Academic departments
  - Up to date

Data is:

- Specific to U.S. training programs
- Demographic, workforce and financial information
- Yearly for 17 years
- Chair/Department Administrator responsible for input
- Email followup
- High response rate – 61 – 73 %
- Rapid turnaround - months

MGMA/AAMC

- MGMA
  - Physician Compensation and Production Survey
  - National averages for salaries, costs, productivity hours
  - Includes academic practice compensation and production report
- AAMC
  - National average compensation for academic physicians
- Lower response rate – 9 – 35%
- Longer turnover – lag of 1 year
- Less specific information

Snapshot in time

- Demographics
- Revenue
- Expense
- Institutional Support
- Margin

Statistics

- Descriptive – mean, median, 25th and 75th percentiles, confidence intervals
- Derived financial concepts
  - Faculty support = Total institutional support – CRNA support
  - Faculty support per FTE = Faculty support/FTE
  - Units/site = Total ASA units/total number of sites

2015 Average Department Demographics

- 62.8 faculty
- 50.8 residents
- 9.6 fellows
- 44 CRNAs – 90% departments have CRNAs

- 3.9 open faculty positions – 100% had open positions
- 4.5 open CRNA positions – 72% had open positions
- Average nonclinical time – 14.6%

2015 Average Department Revenue

- $32,824,158 – clinical
  - Per FTE – $542,346
- $1,772,563 – research
- $10,472,349 – institutional
  - -$8,176, 628 – hospital
  - -$1, 012,692 – medical school
  - Per FTE - $191,,388
- $45,513,357 - total

Expense/Margin

- $43,389,617 – total
  - Per FTE - $734,004
- $3,069,624 – margin
  - 25% - loss, 75% profit

Cases/ ASA units

- Cases – 43,430
- ASA Units – 785,703
  - Per FTE - 13,996

- ORs covered - 41
- Non OR off site – 11
- ICU and Pain locations

Salary Survey

- Regions – Midwest, Northeast, South, West
- Faculty by academic rank
- CRNAs by years of service

Trends

- Growth in number of faculty, residents and CRNAs
- Growth in the number of sites covered daily
- Institutional support is growing despite increased numbers of departments with positive margins
- Academic time is decreasing
- Widening gap between revenue and expenses is driver of increasing support

Financial Wellbeing

- Hospital support for clinical and administrative services
- Additional service = additional support
- Appropriate size house staff to balance clinical and service obligations
- GME funding for resident training
- Adequate payment from capitated/bundled contracts
- Minimum unit value acceptable in contract negotiations to ensure positive margin

SAAA Salary and Practice Survey References

1. Tremper KK, Barker SJ, Gelman,S. et al. Surviving the perfect storm: the financial environment of academic anesthesia, October 2000. White paper commissioned by the Society of Academic Anesthesiology Chairs and the Association of Anesthesiology Program Directors (SAAC/AAPD)
2. Tremper KK, BarkerSJ, Gelman S et al. A Demographic, Service and Financial Survey of Anesthesia Training Programs in the United States. Anesth Analg 2003;96:1432-46
3. Tremper KK, Shanks A, Morris M. Trends in the Financial Status of United States Anesthesiology Training Programs: 2002 to 2004. Anesth Analg 2006; 102:517-23
4. Kherterpal S, Tremper KK, Shanks A et al. Six Year Follow-Up on Work Force and Finances of the United States Anesthesiology Training Programs: 2000 to 2006. Anesth Analg 2009; 108:263-72
5. SAAA 2015 Salary and Practice Survey

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New Chair, New Program, High Hopes: How to Build a Research Program From the Ground Up in a Traditionally Clinical Department

Aman Mahajan, M.D., Ph.D., M.B.A.

11/11/2016
9:00am – 9:15am

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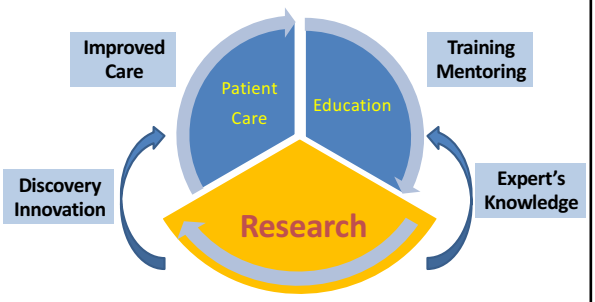
Success in Translation

-- Building A Research Portfolio in A Clinical Department

David Geffen School of Medicine | UCLA Health

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

Contribution of Research Excellence



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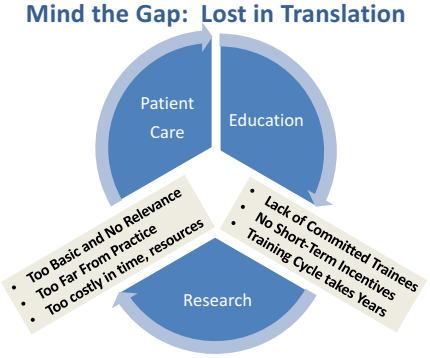
Mind the Gap: Lost in Translation



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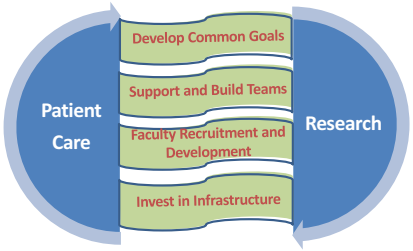
Building Bridges b/w Research and Patient Care



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Building Bridges b/w Research and Education

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- **Research Focused Initiatives**
  - Build outstanding infrastructure and strong leadership team
  - Support translational research projects across Department
  - Partner with Research Theme initiatives at SOM/Campus
  - Mission focused recruitment of faculty and fellows
  - Develop a culture of excellence and mutual appreciation

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

- **Build outstanding infrastructure and strong leadership team**
  - State-of-the-art research Cores from imaging, cell and organ physiology to molecular biology and genomics.
  - Long-term support of admin team dedicated to research activities
  - Empower researchers with leadership and mentorship roles, and protected time

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

- **Support translational research projects across Department**
  - Dedicated resources for Translational Research Committee
  - Promote cross-disciplinary translational projects
    - Aortic aneurysm development: Cardiac anesthesia and cardiac researchers
    - Neuraxial modulation of arrhythmia: Chronic Pain and cardiac researchers
    - Periop genomics: Preop team and Genomics researchers
    - Bupivacaine/LA toxicity: Regional Anes and I/R injury lab
    - Neurocognition: Neuro anesth and Neuroscience lab
    - Others

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

- **Partner with research Theme initiatives at SOM/Campus**
  - Lead and support UCLA Cardiovascular Theme
  - Lead and support UCLA precision health initiative (Perioperative Outcomes)
  - Close collaborations and joint faculty appointments with Cardiology, Pulmonary, GI, Radiology, Pathology, Bio-engineering, Physiology, College of Life Sciences et al.

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- **Translational Research Portfolio**:
  - Cardiac Arrhythmia and Sudden Death
  - Mechanisms of Heart Failure and Coronary Heart Diseases.
  - Novel Mechanism and Treatment of Vascular Diseases
  - Pulmonary Diseases and PAH
  - Cognition and Anesthesia
  - Metabolic Disorders

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

- **Basic Science Portfolio:**
  - Membrane and Channel Biology
  - Cell and Molecular Imaging
  - Molecular Signaling and Gene Regulation
  - Cellular Metabolism and ROS Regulation
  - Genomics, genetics and epigenetics

UCLA | DEPARTMENT OF ANESTHESIOLOGY & PERIOPERATIVE MEDICINE

- **Mission focused recruitment of faculty and fellows**
  - High goals: Promote research excellence and translational impact
  - Build depth: Emphasize on synergy and collaboration
  - Incentive and Rewards: Incentivize academic career development among fellows/Faculty
  - Recruit Talent: Collective efforts in recruitment process

Faculty: Traits for Success

Characteristic	Description
Socialization	Understands the values, norms, expectations, and sanctions affecting established faculty (e.g., beneficence, academic freedom).
Motivation	Driven to explore, understand, and follow one's own ideas, and to advance and contribute to society through innovation, discovery, and creative works.
Content knowledge	Familiar - within one's research area - with all major published works, projects being conducted, differing theories, key researchers, and predominant funding sources.
Basic and advanced research skills	Comfortable with statistics, study design, data collection methods, and advanced methods commonly used in one's area.
Orientation	Committed to both external activities (e.g., regional and national meetings, collaborating with colleagues) and activities within one's own organization (e.g., curriculum planning, institutional governance).
Autonomy and commitment	Has academic freedom, plans one's own time and sets one's own goals, but is also committed to and plays a meaningful role within the larger organization.
Work habits	Has established productive scholarly habits early on in one's career.

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Build (Train your Own) vs. Buy (Recruit)

	Train your Own	Targeted Recruitment
Time to "success"	Faster	Slower
Investment of resources	Lower and spread over time	Higher if new infrastructure needs to be built
Laboratory Space- wet labs, dry labs, offices	Part of existing cluster or group	Significant, esp if moving large number of post-doc/students
Training and mentorship needs	None or minimal	Significant
Integration into department	Organic, more seamless	Can be difficult and take longer
Likelihood of success	Less predictable	Higher

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Timeline for the progression of basic science funding over a career

	Year		Approximate support
Trainee	−10	Undergraduate, medical school research fellowships	~$5,000/y
	−5	T32 research fellowship, advanced degree work (PhD)	~$30,000/y
Faculty	0	Unfunded experimentation of first independent research question	~$30,000/y
	2	Intramural/foundation grants	~$30,000–$50,000/y
	5	Career development "K" award (K08, K12, K30)	~$50,000–$75,000/y
	10	Independent investigator grant (R01)	>$100,000/y

Source: Adapted from Nelson.[6]

2014 Jun; 27(2): 58–64.

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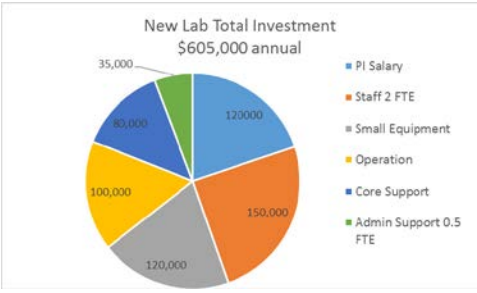
- **Basic Research Lab Investment**



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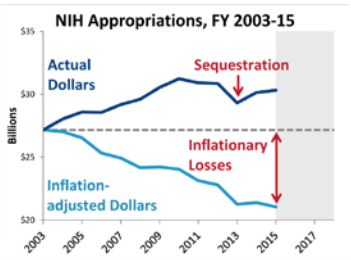
NIH Funding Trends



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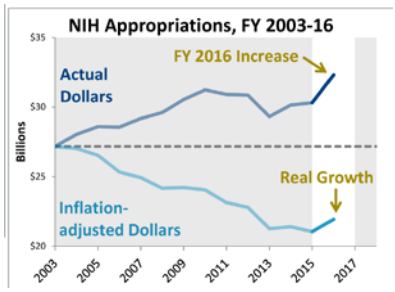
NIH Funding Trends



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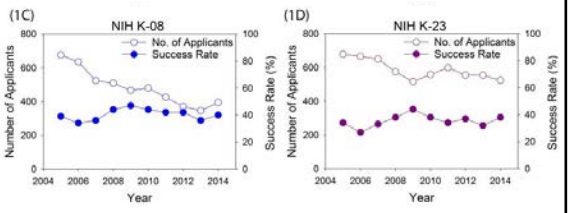
Trending K-Grants: 2005 - 2014

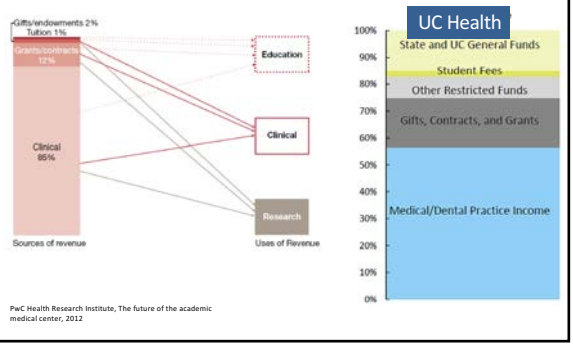


National Institutes of Health Career Development Awards for Cardiovascular Physician-Scientists: Recent Trends and Strategies for Success
J Am Coll Cardiol. 2015 Oct 20; 66(16): 1816–1827

Additional Funding to Complement a K Award

- American Heart Association (Grant-in-Aid, Mentored Clinical and Population Research Award, Fellow-to-Faculty Transition Award)
- American College of Cardiology Foundation (ACCF/William F. Keating Endowment Career
- Development Award, ACCF/Merck Research Fellowships
- VA career development awards and others
- Doris Duke Charitable Foundation (Clinical Scientist Development Award)
- Burroughs-Wellcome Fund (Career Awards for Medical Scientists)
- NIH Investigator Research Supplement
- Gilead Sciences Research Scholars Program in Cardiovascular Disease
- Institutional pilot awards
- Related foundations (American Diabetes Association, Juvenile Diabetes Research Foundation.
- Career Development Award, FAER, SCA, Susan G. Komen Foundation, etc.)

Funding and Research Support in US Academic Medical Centers (AMCs)



PwC Health Research Institute, The future of the academic medical center, 2012

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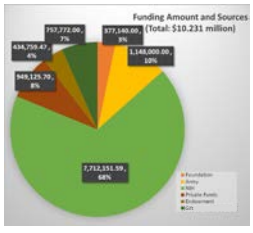
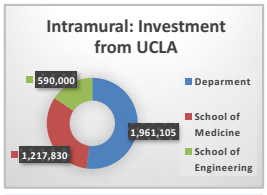
Manage Research as a Business



Extramural Funding: 10,231,768



Intramural Funding: 3,768,935

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- **Define your Metrics for Success:**
  - **Scientific, Programmatic, Financial**

- Publications/ with scientific impact
- Training grants, Grants-in-aid, Career Dev grants, RO1, PO1, etc
- NIH, DOD and Foundation Study Sections/Review Panel Members and Chairs
- Prestigious Editorial Membership
- Scientific organization (AHA, FAER, ISHR, etc) representation/leadership
- Scientific Conferences Chairs and Invited Speakers
- Programmatic growth/faculty development

Traits (desired) in Departments for Success in Research

Recruitment and selection	Great effort is expended to recruit and hire members who have the training, goals, commitment, and socialization that match the institution.
Clear coordinating goals	Visible, shared goals coordinate members' work.
Research emphasis	Research has greater or equal priority than other goals.
Culture	Members are bonded by shared, research-related values and practices, have a safe home for testing new ideas.
Mentoring	Beginning and midlevel members are assisted by and collaborate with established scholars.
Communication with professional network	Members have a vibrant network of colleagues with whom they have frequent and substantive (not merely social) research communication, both impromptu and forma, in and outside of the institution.
Resources	Members have access to sufficient resources such as funding, facilities, and especially humans (e.g., local peers for support, research assistants, technical consultants).
Sufficient work time	Members have significant periods of uninterrupted time to devote to scholarly activities.
Size/ experience/ expertise	Members offer different perspectives by virtue of differences in their degree levels, approaches to problems, and varying discipline backgrounds, the group is stable, and its size is at or a above a "critical mass."
Communication	Clear and multiple forms of communication such that all members feel informed.
Rewards	Research is rewarded equitably and in accordance with defined benchmarks of achievement; potential rewards include money, promotion, recognition, and new responsibilities.

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HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

New Chair, New Program, High Hopes: How to Build a Research Program From the Ground Up in a Traditionally Clinical Department

Daniel S. Talmor, M.D., M.P.H.

11/11/2016
9:15am – 9:30am

How to Build a Research Program From the Ground Up in a Traditionally Clinical Department-

The Center for Anesthesia Research Excellence

Daniel Talmor MD MPH

HUMAN FIRST

Beth Israel Deaconess Medical Center

Step 1- Admit you have a problem

- Department not as successful in research as it could be.
- No pipeline of new investigators.
- Staff satisfaction impacted.
- Residents unhappy
- Becoming an issue in recruitment.

Step 2- Take inventory

- Commitment on the part of the medical center to an academic department of anesthesia.
- Overall commitment on the part of the faculty to academics.
- A number of baseline strengths-
  - Very successful basic science in pain and headache.
  - Successful clinical research in ICU.
  - Strong program in cardiac / ECHO.
  - Smaller program in OB anesthesia.
  - Able to recruit excellent young faculty.

Step 3- What are our goals? Our mission statement

- Improve the quality of our patients' lives by providing compassionate, state-of-the-art care.
- Advance the field of perioperative medicine by
  - Generating new knowledge
  - Educating the next generation of leaders in anesthesia
  - Driving expansion, improvement, innovation, and integration across the system of perioperative care delivery.
- Support personal and professional development and fulfillment for Department members.

Step 4- Choose a direction

- Basic vs. clinical research?
  - Clinical
- Investigator initiated or Industry
  - Mostly Investigator initiated
- PhDs vs. Clinician scientists?
  - Clinician scientists
- Recruit or grow?
  - Mostly grow

Step 4- Choose a direction

- What will department commit to research?
  - 2% of revenue
  - Approximately $1 M/Y
- What else is available?
  - Chair package
  - IDC rebate
- How will we measure success?
  - numbers of faculty and trainees involved
  - Strength of the "pipeline"

Step 5- What are the barriers to success?

10/13/15

- Non- clinical time is limited.
- Young faculty lack experience and knowledge in research.
- Without a full study team, it is difficult to conduct research on top of existing responsibilities.
- Not enough mentors.
- Money is not unlimited.

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7

CARE
Center for Anesthesia Research Excellence

- CARE is a one-stop shop for department members who want help conducting clinical research.
- Goal is to simplify and streamline research endeavors in the department, and help ensure successful research.
- Work across all divisions
- Provides education
- Manages internal grants

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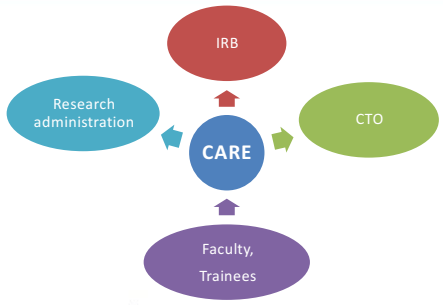
8

Where does CARE fit in?



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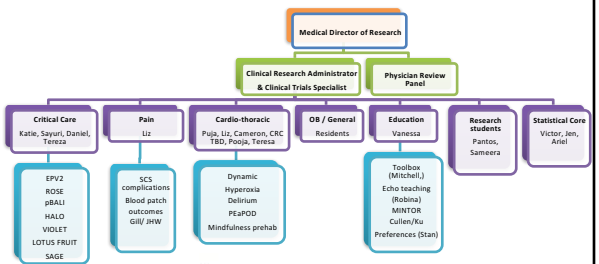
9

CARE: Projects



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How Does CARE Work?

10/13/15

- Bring the research idea.
- Present to the Physician Review Panel.
- Modifications based on feedback and suggestions.
- CARE sends proposal of resources to support.
- Provide CARE with regular updates on progress.
- Must prioritize projects.

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11

CARE Services

- Development of core research idea
- Study design
- Mentorship facilitation
- Protocol writing
- IRB communications
- Database and Case Report Form building
- Survey design
- Patient screening & recruitment strategies
- Data collection and source documentation
- Audit readiness
- Research regulation education, team training
- Manuscript & grant writing
- Sample processing & storage
- Administration of John Hedley-Whyte Award

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CARE: Personnel (Summer 2016)

What do faculty need to do?

10/13/15

- Bring good ideas
- Be willing to work
- CARE facilitates, does not replace
- Notify us about success: publications, presentations, grants
- CARE is not a free ride

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CARE Education

10/13/15

- Education lectures held during faculty hour. Open to faculty & trainees.
- Prior Topics:
  - Statistics: power calculations, sample size estimates
  - Grantsmanship
  - IRB application process
  - Research consenting
  - Source documentation
- Discussion are problem-based using specific examples from the audience – bring your own study questions

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CARE Education

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CARE Projects: Cardiothoracic

10/18/16

Dexmedetomidine and IV acetaminophen for the prevention of postoperative delirium following cardiac surgery in adult patients 60 years of age and older.

PI: Balachundhar Subramaniam, MD MPH

- Purpose: use intravenous dexmedetomidine and acetaminophen for postoperative sedation and analgesia (compared to current management with intravenous propofol and morphine or hydromorphone for sedation and analgesia) in patients ≥60 years old undergoing CABG
- CARE: IRB, project planning, operations, CRF/database, subject recruitment, data collection, data entry, data analysis.

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CARE Projects: Cardiothoracic

10/18/16

The relationship between administered oxygen levels and arterial partial oxygen pressure to neurocognition in post-operative mechanically ventilated cardiac surgical patients.

PI: **Shaz Shaefi, MD**

- Hypothesis: Cardiac surgical patients who undergo normoxic conditions throughout the intraoperative and early post-operative period will have better neurocognitive function than those with maintenance of hyperoxia.
- CARE: IRB, project planning, operations, grant submissions, CRF/database, subject recruitment, data collection, data entry, data analysis.

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CARE Projects: Cardiothoracic

10/18/16

Prevention of Early Postoperative Decline "PEaPOD"

PI: Brian O'Gara, MD

- Hypothesis: Patients undergoing cardiac surgery have a high risk of postoperative cognitive decline. Patients who participate in a neurocognitive training program pre- and post-operatively will have a lower incidence of postoperative cognitive decline after cardiac surgery than do controls receiving standard of care.
- CARE: IRB, project planning, operations, grant submissions, CRF/database, subject recruitment, data collection, data entry, data analysis.

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CARE Projects: ICU

10/18/16

Reevaluation Of Systemic Early neuromuscular blockade "ROSE"

PI: Danny Talmor MD MPH & Nate Shapiro, MD MPH

- Hypothesis: Early neuromuscular blockade will improve mortality prior to discharge home before day 90, in patients with moderate-severe ARDS.
- CARE: Funded by NIH as part of PETAL Network. Protocol writing, grant writing, IRB, subject screening, data collection, data entry, sub-site management.

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CARE Projects: ICU

10/18/16

Mechanical Ventilation in Severe Brain injury: The effect of positive end expiratory pressure on intracranial pressure. "p-BALI"

PI: Dustin Boone, MD

- Hypothesis: To determine whether the mode of mechanical ventilation and ventilator parameters influence intracranial pressure.
- CARE: IRB, project planning, operations, CRF/database, subject recruitment, data collection, data entry, data analysis.

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CARE successes

- Users
  - 27 Anesthesia faculty
  - 6 faculty from other departments
  - 22 residents
- Pipeline
  - 2 investigators on T-32
  - 2 FAER MRTG
  - 4 PCE participants last summer.

Beth Israel Deaconess Medical Center

How to Build a Research Program From the Ground Up in a Traditionally Clinical Department-

The Center for Anesthesia Research Excellence

Daniel Talmor MD MPH

HUMAN FIRST

Beth Israel Deaconess Medical Center

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

New Chair, New Program, High Hopes: How to Build a Research Program From the Ground Up in a Traditionally Clinical Department

Peter Rock, M.D., M.B.A., FCCM

11/11/2016
9:30am – 9:45am

How To Build a Research Program From the Ground Up: Strategies and Considerations

Peter Rock, MD, MBA, FCCM
Martin Helrich Professor and Chair
Department of Anesthesiology
University of Maryland School of Medicine
Baltimore, Maryland

There Is No One Formula To Building A Research Program

- If you've seen one research program get built, you've seen one program…
- I've kept a list of the various decisions, tradeoffs and other considerations I've encountered along the way

Strategy And Vision

- Endpoint is a department that has:
  - A culture that values research and scholarly activity
  - Research that makes important contributions to the specialty
  - Faculty who are recognized as leaders in the field by virtue of their research contributions
- Achieving this goal will probably entail a combination of strategies:
  - Recruitment of funded investigators (faster)
  - Training young physician-scientists and PhD researchers (slower)
    - Perhaps decades
    - But has big impact on our specialty: developing and exporting the leaders of our specialty

Strategy And Vision

- These two strategies are not mutually exclusive
- However, since the "home-grown" approach takes time, it would be wise to start this process early
- Recruitment of funded investigators should take into account the development needs of the faculty being trained (research theme)
- The "home-grown" approach also requires suitable junior faculty or trainees and individuals to mentor them

Are Faculty Interested In Research?

- Are faculty interested and committed to engaging in research?
- I brought involvement in several large, multicenter, NIH trials:
  - Thought this would be an easy(er) way for clinician-educators to begin participate in research
  - "Modest" interest amongst existing faculty
- Existing faculty may have limited or no experience with research, may not be interested
- Changing the culture to support and value research will take time, new recruits

Money

- A successful research program is expensive
- Lose money on research; don't make it up on volume
- Some grants require more protected time than the grant actually supports (e.g. K award)
- The more successful you are, the more it costs
  - Equipment
  - Service contracts
  - Cost-share for scientists
- At Maryland, funding expectations for PhDs are:
  - Assistant professors fund 50% of salary to NIH cap ($185,100)
  - Associate professors 75%
  - Professors 80 - 85%
- What is the expectation for a physician-scientist?

Sources Of Funding For Research

- Grants do not fund all research-associated expenses
- Chair's startup package
- Is it feasible to use clinical $ to support research?
- Endowment
- DOD, Foundations, AHA, ATS, etc.

Return Of Indirect Funds To The Department

- This is an important topic to negotiate with your Dean:
  - Know the amount (percentage) of indirect funds retained by the School/institution and that returned to the department
  - May be able to negotiate an increased amount of indirects be returned to the department as an incentive to obtain funding

DOD And VA Funding

- This may be very site specific
- Significant amount of DOD funding available for shock, hemorrhagic shock, prediction of need for transfusion and other life-saving interventions
- DOD funding is not constrained by the NIH cap
- If you are affiliated with the VA, that agency can be another good source of federal funding
  - The VA does not provide the same amount of indirects that the NIH does so the Dean may not like it (as much) but VA awards pay for salary and provide space

Does Research Have To Relate To "Anesthesia?"

- Play to your strengths
- Maryland sees lots of TBI (Shock Trauma, CNS injury transported to Maryland) which allows us to have basic, translational and clinical research in TBI
- Research should probably connect to areas of interest to anesthesiologists
  - Shock, sepsis, cardiac, pulmonary, neuro, pharmacology
  - Perioperative outcomes
  - Basic mechanisms of anesthetic action

Selection Of Your Key (First) Research Faculty Member Is Critical

- Hold out for a (well)funded investigator with a history of R01 renewals
- That person will set the tone for subsequent recruitments or internal development of researchers

"Rainmaker" Researchers: Be Careful What You Wish For

- "Rainmakers" have a significant amount of leverage
- Diversify your research portfolio to minimize your exposure to the risk of your rainmaker leaving

Collaboration With Other Departments

- Partner with funded researchers in other departments
- Opportunities to place junior faculty in labs
  - They have the labs space, equipment, supplies
  - We provide the protected time
- NIH multiple-PI grants
  - "…encourage interdisciplinary and team approaches to biomedical research, and give scientists the option to apply with their peers and allow for equal credit for leadership of the research program."

Investigator Initiated Vs. Industry Trials

- We've avoided them:
  - Rarely result in publications
  - Little to no input into protocol
  - Can you make money?
- It is easy to lose money even on industry trials; they must completely cover all costs and a realistic amount of coordinator and PI effort
- Could be used to help faculty get involved in clinical research
- Might allow you to fund a research coordinator and hopefully the coordinator could work on other projects

PhDs Vs. Physician Scientists

- A group of PhDs can be a good way to start and establish the department's credibility in research
- Developing a critical mass of research faculty makes the department attractive for further recruitment and development of research faculty
- Physician scientists help engage clinical faculty, serve as role models and mentors to clinician-educators

PhDs Vs. Physician Scientists

	PhD	Physician-Scientist
Cost	Less expensive	More expensive
ROI	Faster return on investment	Slower return
Need for training	Less or none	Some or a significant amount
Impact on clinical faculty	None	Significant
Type of research	Basic, mechanisms	Translational, clinical
"Role model"	For other PhD faculty	Relevant to clinical faculty
Integration into department	Less integrated	More integrated
Establish credibility	Faster	Slower
Achieve "critical mass"	Faster	Slower
Change culture	Some impact	Significant impact
Establish training system	Maybe	Yes (T32, K08)
Train future leaders of specialty	Maybe	Yes

Cohesiveness Between PhDs And Clinicians

- A group of research-intensive faculty may not be well integrated into the overall fabric of the department
- We've tried faculty research meetings to share results and ideas
- Seed grants that encourage basic scientists and clinicians to collaborate

Recruit Vs. "Grow Your Own"

	Recruit	Develop Your Own
Speed	Faster	Slower
Cost (Investment)	Expensive	Depends
Integration into department	Slower, more superficial	Faster, deeper
Training requirements	None	Significant
Space requirements	Significant	Embed in existing lab
Track Record	Proven	None or unknown
Risk	Lower	Higher

Selective Faculty Recruitment And Selective Investment In Faculty

- In a recruit, continuous funding, especially federal, as well as an excellent track record of publication, is essential
  - Form a search committee of senior investigators, use other department's faculty, if needed, to advise you
- Invest in faculty who are willing to commit the time and make sacrifices
  - At Maryland, a faculty member seeking protected time contributes half the cost of their protected time; they are investing in themselves (and the department is investing in them)

Establish A Farm-System

- Identify interested medical students or residents and put them in a development program
  - Virginia Apgar Society at Columbia and other similar programs
  - Stipend during residency and fellowship
  - Combined research and clinical fellowship
  - Stay on as junior faculty
  - Strong mentoring, placement in a successful lab

Mentoring

- Critical for the development of junior and middle level research faculty
- Maryland has a Mentoring and Faculty Development Steering Committee; oversees individual committees
- Mentoring committees are established for <u>all</u> faculty seeking promotion and who conduct research
  - ~ 3 faculty mentors per committee
  - Established, successful, funded senior faculty
  - May be internal or external to the department
  - Meet with the mentee at least 2 times/year
  - Review publication progress, grant submissions, specific aims

Departmental Seed Grants

- Attempt to encourage research amongst clinical faculty
- Project must lead to a publication, awardee must provide progress reports back to department
- Process:
  - Call for grants
  - Brief letter of intent describing the project (pre-proposal)
  - Projects invited for a full proposal
  - Committee scores proposals
  - 2-4/yr; $10k each

What Kind Of Research?

- Basic vs. translational vs clinical research
- Depends on the type of your research faculty
- Translational and clinical research more likely to engage clinical faculty
- Play to your department's and institution's strengths and available resources
- Focus department's research efforts on a few areas to create depth rather than many areas of research which have only 1 investigator

Should Anyone Be Allowed To Do "Research" On Anything?

- Will research coordinator effort be required?
- Is faculty member asking for (more) non-clinical time?
- Is the project a one-off, is there a theme that can be developed, or is it aligned with existing research?
- Can the project be published?
- Ask faculty member to invest in themselves by demonstrating they can deliver before assigning academic time

Have Faculty Take Ownership Over Clinical Protocols

- Some faculty have the idea that their role is to think of a project and the research coordinator does the rest
- We require faculty to:
  - Develop the protocol
  - Write the consent
  - Determine the number of subjects
  - Have a preliminary statistical plan
  - Submit the protocol into our IRB system (Cicero)
- We want them to be fully knowledgeable about and accountable for their own study

Does Everyone Get Research Coordinator Support?

- Prioritization:
  - NIH-funded
  - Other federal funded
  - Foundation or Society funded
  - Industry (must completely cover coordinator effort)
- Research coordinator:
  - May assist with recruitment, screening, enrollment
  - Is available as a regulatory and IRB resource
  - Insures regulatory binders, documents are maintained
  - Liaison with the IRB
  - Assists with site visits
  - Helps with budgeting (Office of Sponsored Research)

Should (Funded) Physician Scientists Be Paid The Same As Clinicians?

- We believe they should
- They are performing an important mission which others cannot or will not do
- Clinical faculty may not like the protected time research faculty receive or that they are not as "clinically productive" as others

Benchmarking

	Department 1	Department 2	Department 3
NIH funding (Blue Ridge)	9	4	20
T32 training grant	Yes	No	No
K08 (Physician-Scientist Career)	Yes	No	Yes
Anesthesiologist Investigators (Federal-funded)	18 (6)	9 (2)	6 (2)
Publications (2015-16)	300	200	225
Annual Society Meeting Presentations (ASA/AUA/IARS etc.)	+++	+	++

Alternatives To A Big Federally-Funded Research Program

- Quality and safety research
- Health policy research
- Clinical data:
  - Invest in Database analyst who can query Epic, AIMS, EMR
  - Use your OR clinical info system to create an IRB-approved "Registry" to conduct research

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

Standardized Education Tools vs. Specialized Individual Education. A Pro-Con Debate (Con – Specialized Individual Education)

Robert R. Gaiser, M.D., M.S.Ed.

11/11/2016
10:30am – 10:45am

Specialized Individual Education
Robert Gaiser, M.D., M.S.Ed.
Professor and Chair
University of Kentucky

Olaf from *Frozen*: Some people are worth melting for

Chilkoti G, Mohta M, Wadhwa R, Saxena AK. Problem-based learning research in Anesthesia Teachings: Current status and future perspective. Anesthesiol Research Practice 2014;10:1
Problem-based learning is a student centered pedagogy in which students in small groups learn about a subject through the experience of problem solving. PBLs provide 1) structuring of knowledge for use in clinical context, 2) development of effective clinical reasoning process, 3) development of effective self-directed learning skills, and 4) increased motivation for learning.

Carrero E, Gomar C, Penzo W, Rull M. Comparison between lecture-based approach and case/problem-based learning discussion for teaching pre-anaesthetic assessment. Eur J Anaesthesiol 2007;24:1008
Problem-based learning improved clinical based reasoning. Education requires a great deal of planning, time, and resources. PBL has a greater requirement than lecture based.

Tetzlaff JE. Assessment of competency in Anesthesiology. Anesthesiology 2007;106:812
One of the best forms of assessment of an individual is mentorship. A trainee has a clinical experience, shares it with a senior physician, and receives feedback that leads to improvement.

Singh S, Pai DR, Sinha NK, Kaur A, Soe HHK, Barua A. Qualities of an effective teacher: What do medical teachers thing? BMC Medical Education 2013;13:128.
While knowledge of the subject is generally ranked the highest for an effective teacher, it is important that the teacher: have leadership qualities, be enthusiastic and have passion, and be honest, moral, and ethical.

Scemama PH, Hull JW. Developing leaders in Anesthesiology. A Practical Framework. Anesthesiology 2012;117:651.
There is evidence that organizations that focus exclusively on cost reduction and efficiency during times of rapid change ultimately do not do as well. Anesthesiologists need to become agents of change who envision, lead, and implement changes that ultimately result in greater patient safety, better patient outcomes, and improved quality. Three themes emerge: self-awareness, creativity, and relationships. Creativity, the willingness to experiment, to break through barriers, and to be open to new ideas is a requisite requirement that requires nurturing in residents for them to develop into effective leaders.

Mets B. Leadership challenges in academic anesthesiology. JEPM 2005;7:1
The challenge for leadership in anesthesiologist lies in the development of future leaders. Leadership is about relationships. Core values that must be incorporated include respect, collegiality, integrity, and compassion.

Sachdeva AK. Continuing professional development in the Twenty-First Century. JCEHP 2016;36:S8.
Education program must be relevant to the professional practice of the physician. Preceptorship, proctoring, mentoring, and coaching are important in the development of the resident. Investment in the resident may have a major positive impact on health care through transformational changes in the performance of the resident who will continually learn, achieve, and impact future patient outcomes.

Dahlstrom J, Dorai-Raj A, McGill D, Owen C, Tymms K, Watson DAR. What motives senior clinicians to teach medical students? BMC Medical Education 2005;5:27.
The major factors driving teachers are: helping students become better doctors, enjoying the challenge of teaching, valuing the presentation of one's own specialty, enjoying small group teaching, feeling responsible for students, and wanting to understand students. Negative factors for teaching include lack of involvement in course design, lack of enjoyment in teaching, and clinical load deterring involvement in teaching.

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

Standardized Education Tools vs. Specialized Individual Education. A Pro-Con Debate (Pro – Standardized Resident Education Tools)

Glenn E. Woodworth, M.D.

11/11/2016
10:45am – 11:00am

Graduate Medical Education: A role for Standardized Curricula (tools)

Glenn Woodworth, MD
Associate Professor, Director Regional Anesthesia Fellowship
Department of Anesthesiology and Perioperative Medicine

Faculty Disclosure

	Nature of Affiliation
• Anesthesia Toolbox	Editor

Off-Label Product Usage
• None

Learning Objectives

- Identify the roots of current trends in education
- Define the need for standardized tools and resources to enable standardized and personalized education innovation
- Understand the challenges facing innovation in GME

Thanks SAAA 2016

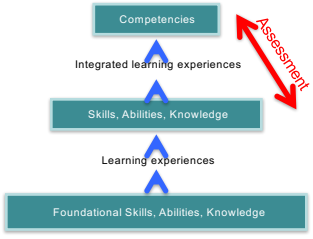
Industrialization of Education

"Our K-12 system largely adheres to the century-old, industrial-age factory model of education"

US Secretary of Education Arne Duncan 2010.

Competency-based Education

- Learners enter with different levels of competency
- Granular descriptions of skills, behaviors and knowledge



National Postsecondary Education Cooperative working group on competency-based initiatives in postsecondary education. Defining and Assessing Learning: Exploring competency-based initiatives. http://nces.ed.gov/pubsearch/

Personalized Education: Learner Centric

- Individually paced
- Self-directed
- Blended learning is the enabler
- Learning is adaptive
- Traditional class is problem solving

Personalized Education: Learner Centric

- Individually paced
- Self-directed
- Blended learning is the enabler
- Learning is adaptive
- Traditional class is problem solving

What about at Personalized Learning at the Programmatic Level?

- Individually paced
- Self-directed
- Blended learning is the enabler
- Larning is adaptive
- Traditional class is problem solving

Do we need Standardized Curricula at the programmatic level?

Benefits of a Curricula

- Supports self-directed learning
- Specifies learning outcomes
- Identifies appropriate resources

Blended Learning: Implementing Personalized Education

- Curricula as a study guide
- Supports self-directed learning
- Vetted (standardized) content

KHAN ACADEMY

For Anesthesia Training!

Social Media Tools in GME

- Blog
- Broadcast
- Follow
- Asynchronous discussion
- Groupware
- Social relevancy

Challenges Facing GME

- **Patient care drives revenue** (teaching is a cost center)
- **Financial constraints**
  - Harder to obtain grant funding
  - Reduced federal funding for GME
  - Reduced clinical revenue

Anesthesia Education Office

Albanese M, Mejicano G, Gruppen L. Competency-based medical education: a defense against the four horsemen of the apocalypse. Acad Med. 2008;83:1132-1139.

We have to Work Together

Summary

- Personalized Education is important
- Standardized curricula and blended learning are necessary
- Fantastic opportunities
- Big challenges
- Cooperation is an absolute must

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How to Make the Department Better – Chairs Share Ideas

Colleen Koch, M.D., M.S., M.B.A., F.A.C.C.

11/11/2016
11:10am – 11:20am

How to Make Your Department Better: *Chairs share ideas*

1

How to Make Your Department Better: *Chairs Share Ideas*

Objectives

- Faculty Development
- Well-being
- Supporting Education

2

The Panel:

Colleen Koch, MD, MS, MBA
Professor and Chair Johns Hopkins Medicine
Andrew Rosenberg, MD
Professor and Chair New York University
Laureen Hill, MD, MBA
Professor and Chair Emory University
Aman Mahajan, MD, PhD, MBA
Professor and Chair UCLA

3

How to Make Your Department Better: *Chairs Share Ideas*

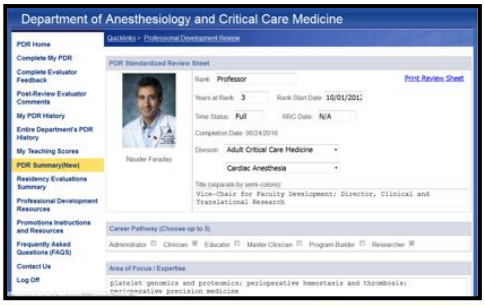
Colleen Koch, MD, MS, MBA
Mark C. Rogers Professor and Chair
Department of Anesthesiology and Critical Care Medicine
Johns Hopkins Medicine

4

The Greater Goal: *6 Strategic Priorities*

- People
- Biomedical Discovery
- Patient and Family-Centered Care
- Education
- Integration
- Performance

Professional Development Reviews, PDR



Faculty Professional Development

Mentoring and Promotions

On-boarding materials

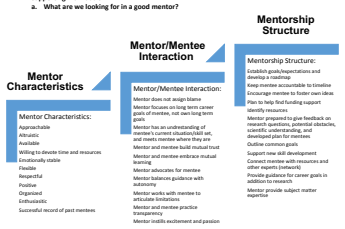
6 month check-in for new hires

Professional Development/Promotions resources accessible from PDR home page

Internal review committees for faculty Instructors, Assistant Professors, Associate Professors

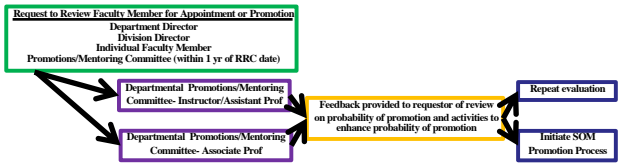
Faculty Professional Development

I. Supporting Individuals
   a. What are we looking for in a good mentor?



Mentoring and Promotions

Internal review committee processes



Research

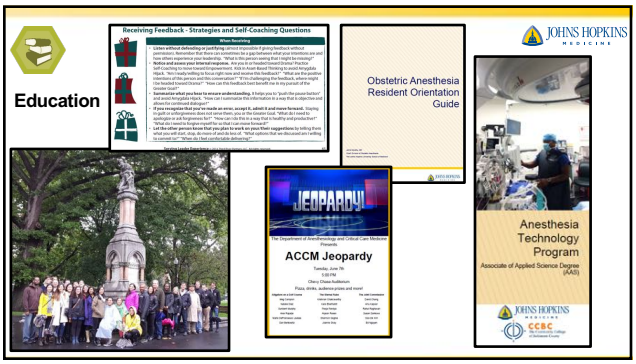
Discovery:
StAAR Grant Strategic Initiative

Stimulating and Advancing ACCM Research

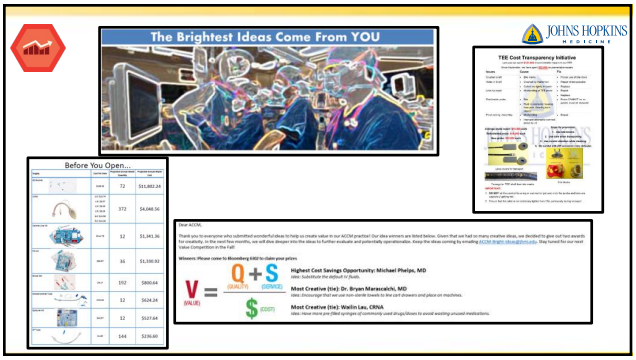
Round 1 Results
- 23 Full Proposals
- 15 Awarded

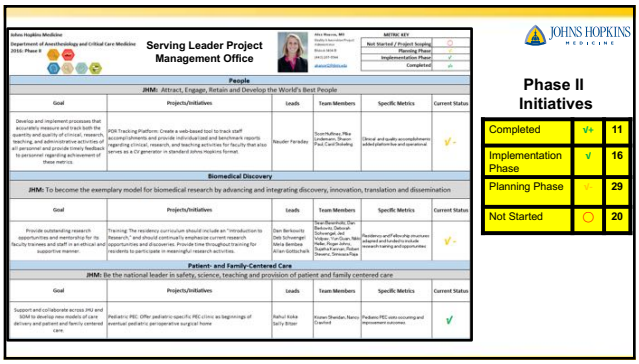
Round 2 Underway!
- Online submission platform
- Funding decisions July 21st

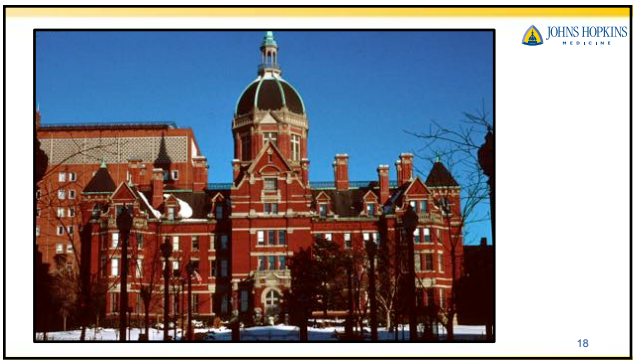

ARGUS
Anesthesiology and Critical Care Medicine's Monthly Quality and Patient Safety Newsletter
JOHNS HOPKINS MEDICINE
Institute for Healthcare Improvement
Open School
Capacity Command Center


Education
Receiving Feedback - Strategies and Self-Coaching Questions
Obstetric Anesthesia Resident Orientation Guide
JEOPARDY!
ACCM Jeopardy
Anesthesia Technology Program
Associate of Applied Science Degree (AAS)


JOHNS HOPKINS MEDICINE
JOHNS HOPKINS BAYVIEW MEDICAL CENTER
SIBLEY MEMORIAL HOSPITAL
JOHNS HOPKINS MEDICINE
Kennedy Krieger Institute
UNLOCKING POTENTIAL
all children's hospital
JOHNS HOPKINS MEDICINE
HOWARD COUNTY GENERAL HOSPITAL
JOHNS HOPKINS MEDICINE
SUBURBAN HOSPITAL
JOHNS HOPKINS MEDICINE


The Brightest Ideas Come From YOU
Before You Open...
TEE Cost Transparency Initiative


Serving Leader Project Management Office
Phase II Initiatives
Completed 11
Implementation Phase 16
Planning Phase 29
Not Started 20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HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How to Make the Department Better – Chairs Share Ideas

Andrew D. Rosenberg, M.D.

11/11/2016
11:20am – 11:30am

NYU Langone MEDICAL CENTER

How To Make The Department Better: Chairs Share Ideas

Andrew D. Rosenberg, M.D.
NYU Department of Anesthesiology, Perioperative Care & Pain Medicine

Department of Anesthesiology, Perioperative Care and Pain Medicine

- Faculty Development
- Faculty Well Being
- Faculty Educators



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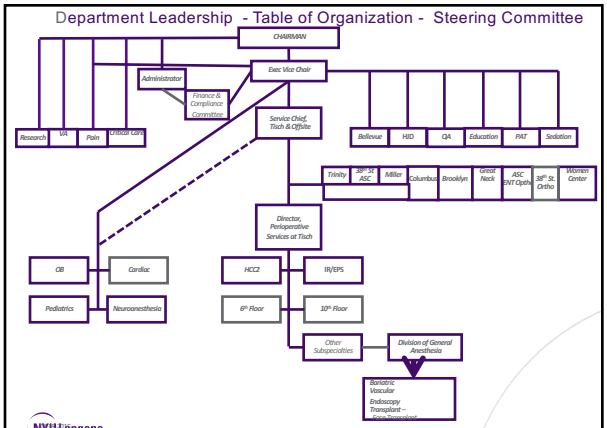
Department Leadership - Table of Organization - Steering Committee



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Departmental Retreat

- Departmental retreat was held-
- Kick off Dinner- Dean addressed department leadership
- All Day Meeting



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Department of Anesthesiology, Perioperative Care and Pain Medicine

- **Mission:** *To provide world-class patient-centered perioperative anesthesia and subspecialty care in an academic environment that fosters and supports excellent education and research.*
- **Vision:** *NYU Anesthesiology will be the premier department in the country, maintaining the highest standard of patient care in and out of the OR and creating an inspirational educational environment that attracts & retains excellent clinicians, researchers and thought leaders in our field.*

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DEPARTMENT OF ANESTHESIOLOGY

Strategic Imperatives 2014 – 2017

Mission: *To provide world-class patient-centered perioperative anesthesia and subspecialty care in an academic environment that fosters and supports excellent education and research.*

Vision: *NYU Anesthesiology will be the premier department in the country, maintaining the highest standard of patient care in and out of the OR and creating an inspirational educational environment that attracts & retains excellent clinicians, researchers and thought leaders in our field.*

DIVISION	IMPERATIVE	BASE GOAL	STRETCH GOAL
All: Mission Pillars	**Develop** The Academic And Clinical Potential At Each Institution and Within Each Subspecialty **Drive** perioperative service and intraoperative efficiency using defined performance & accountability metrics. **Implement** a state-of-the-art quality assurance & patient safety program **Incorporate** Surgical Home concept by aggregating all care into one cohesive unit **Meet** required metrics in HCAHPS- (Hospital Consumer Assessment of Healthcare Providers and Systems) defined by hospital leadership	**Develop** The Academic And Clinical Potential At Each Institution And Within Each Subspecialty Area (see established goals below for each area) **Drive** perioperative service and intraoperative efficiency using defined performance & accountability metrics. Decrease in OR- to -anes ready by 10% for selected cases. Decrease turnover time by 10% **Implement** a state-of-the-art quality assurance & patient safety program by … **Incorporate** Surgical Home concept by aggregating all care into one cohesive unit: Establish 2 SH by…. 2 more by……. 2 more by… **Meet** required metrics in HCAHPS:	**Develop** The Academic And Clinical Potential At Each Institution and Within Each Subspecialty Area **Drive** perioperative service and intraoperative efficiency using defined performance & accountability metrics. Decrease in OR to anes ready by 12% for selected cases. Decrease turnover time by 15% **Implement** a state-of-the-art quality assurance & patient safety program by.. **Incorporate** Surgical Home concept by aggregating all care into one cohesive unit: Establish 2 SH by …. 3more by.; 2 more by.. **Meet** required metrics in HCAHPS:
Pediatric Clinical Pillar	**Prepare** for new locations including ACC and new hospital **Recruit** more pediatric anesthesiologists including clinician/researcher **Develop** ped anes fellowship **More scholarly** research **Collaboration** with Pain group	**Prepare** for new locations including ACC and new hospital **Recruit** more pediatric anesthesiologists including clinician/researcher **Develop** fellowship by ….. **More scholarly** research ….. **Collaboration** with Pain group by …….	**Prepare** for new locations including ACC and new hospital by …. **Recruit** more pediatric anesthesiologists including clinician/researcher …….. **Develop** fellowship by ….. **More scholarly** research ….. ; Peer review articles by …….. **Collaboration** with Pain group by …….
Quality and Safety	**Develop** new defined metrics to follow for QA and OPPE **Utilize EPIC** to become a member of AQI and MPOG	**Develop** new defined metrics to follow for QA and OPPE by ….. **Utilize EPIC** to become a member of AQI and MPOG by …..	**Develop** new defined metrics to follow for QA and OPPE by… **Utilize EPIC** to become a member of AQI and MPOG by…

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Faculty Development

- Place critical people in important roles at the institution-
  Example- What are the critical areas that need to be addressed?
  "Director of off-site locations"
- Chair meets individually with each attending – Challenge when you have 150 attendings
- Determine those people who are interested in advancing their career and help them
- Institution has developed a robust academic mentoring program- really kicks in after first year. Have 2 mentors that meet with attending to help career development

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Faculty Development cont-

- Place talented attendings in charge of programs as opportunities arise-
  These become the "go-to" people for the surgeon to relate to
  - Structural Heart
  - Hypertrophic Cardiomyopathy
  - Face Transplant
  - Pre-surgical Testing

  Name leaders early in process for new initiatives- ex new off-site amb centers- creates ownership, and hosp leaders know MDs

Integrate Department personnel in any important hospital initiative
VBM, Patient safety

Choose Associate Directors for areas who have a long term career vision

- Encourage Clinical and Laboratory Research- Try to give time to those who need it to be productive in the lab or for clinical research

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Seed Money Grants-
To Generate Department Research Interest

1. TransThoracic Echocardiography continuing medical education using the FATE protocol.
2. Development of a Protocol for Preoperative Identification and Perioperative Optimization of the Chronic Kidney Disease Population.
3. An Investigation into attitudes about analgesia in OB providers.
4. A Prospective, randomized, single-blinded comparison of intraoperative ketamin infusion versus placebo in patients having lumbar spinal fusion.
5. Randomization, placebo-controlled study on the effects of IV dexmedetomidine in pts on chronic opioid therapy undergoing elective spinal surgery.
6. Comparison of periarticular infiltration of depofoam bupivacaine with and withou single-injection adductor canal block for analgesia following total knee arthroplasty: A prospective study on pain control and functional outcome.
7. Milestone Assessment of Resident Professionalism and Communication Skills via Professional Standardization Patients.
   *Referred for alternate source of financing
8. Goal-Directed hemodynamic management in face transplant anesthesia.

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Faculty Well Being

- Institution has developed mechanism to deal with bad outcomes
- In the department- meet with attendings when there are bad outcome but..
- For Well Being- think about it in particular with the newer attendings
- Confessions- our PD developed program- new residents anonymously fill out a questionnaire which includes some embarrassing thing that happened and it gives the opportunity to open discussions.
- Confessions of Physicians: What Systemic Reporting Does Not Uncover. Karan SB, Berger J **Wajda** M. J Grad Med Educ. 2015 Dec;7(4):528-30.

- Did this with new attendings- questions on a 1- 5 scale with 1 being no problem and 5 being difficult.
  Rated areas such as: transition to attending status, onboarding, wellness, working with residents, interactions with surgeons, and even looked at those who trained at NYU vs outside residency

- Results:

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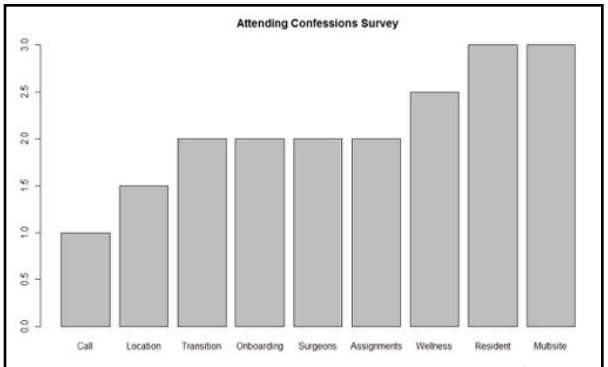

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Take homes from the confession survey:

- Transition seems to go well in general
- Young Clinical Mentors for new attendings
- Booklet for each location- "survival guide"
- Probably more attention can be spent on wellness

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Faculty Educators

- Promote Educators as much as possible by
  - Departmental Lectures to Residents
    28% given by attendings in first 3 years out
  - Participating in CME activities such as workshops and other educational opportunities TTE MOCA simulation
  - Simulation sessions

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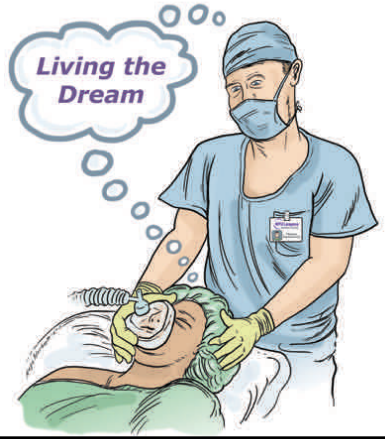

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14

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How to Make the Department Better – Chairs Share Ideas

Laureen L. Hill, M.D., M.B.A.

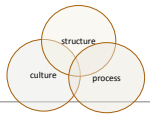
11/11/2016
11:30am – 11:40am

Building the Successful Department

LAUREEN L. HILL, MD, MBA
EMORY UNIVERSITY

Successful individuals are the key to successful organizations

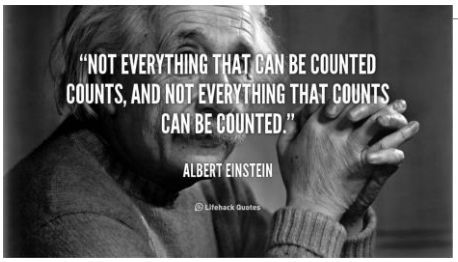
A needs assessment



What department **structure** will support your goals?

Are ***processes*** in place to achieve your goals?

Is the ***culture*** aligned with your goals?



Culture: what is it and why do we care?

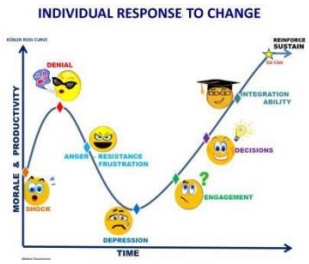
Culture is the essence of how people interact and work

Culture made of instinctive, repetitive habits and emotional responses

Culture is much more a matter of *doing* than *saying*.....

"Culture eats strategy for breakfast." – Peter Drucker

Remember it will be a journey.....



Leadership Principle #1

Take time to learn and gather data…..avoid hasty decisions and pressure to "do something"

Leadership Principle #2

History and context matter…….good people will act in self interest when necessary

Leadership Principle #3

Don't be afraid to set high standards and trust people will rise to expectations

Leadership Principle #4

Data is good but insufficient….need to appeal to both intellect and emotion

Leadership Principle #5

Have courage to be transparent, consistent and equitable even when it is not popular

Leadership Principle #6

Seek broad input but avoid "democracy"…..

Leadership Principle #7

Good timing is essential…..have patience, set an achievable pace and prioritize for both early and sustained successes

Leadership Principle #8

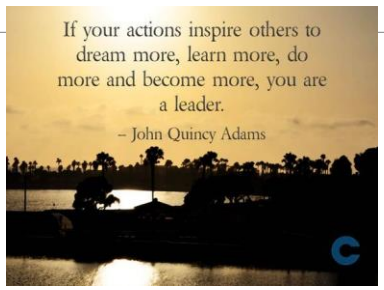
Choose your team for character and traits……be friendly but not friends

Leadership Principle #9

Project optimism!

Leadership Principle #10

Adapt leadership tactics as needs evolve…….transition from leading by doing to leading by leading



HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How to Make the Department Better – Chairs Share Ideas

Aman Mahajan, M.D., Ph.D., M.B.A.

11/11/2016
11:40am – 11:50am

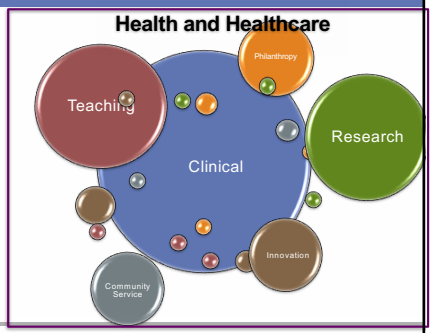
How to make the department better

Aman Mahajan, MD, PhD, MBA
Ronald L Katz Professor and Chair, Dept. of Anesthesiology
Professor of Anesthesiology and Bioengineering
Co-Director, UCLA Cardiac Arrhythmia Center &
Neurocardiology Research Center
UCLA Health System

UCLA Health

Academic Medicine: Mission alignment

1. Clinical
2. Research
3. Teaching
4. Biomedical Innovation
5. Community Service



UCLA Health

STRATEGY PILLARS: Anesthesiology and Perioperative Medicine

PEOPLE	QUALTY AND SERVICE	GROWTH	INNOVATION	OPERATIONAL & FINANCIAL DELIVERY
Recruitment	Clinical • Comprehensive Clin. Services • Quality program • PEPC • Acute Pain • Chronic Pain • CCM	Clinical Services •Non-UCLA Health: MLK • UCLA Non-hospital: Community Anesth •Non-OR Pain, Echo, CCM	Information Management • Informatics and Analytics	Value and Mission based investing
Faculty Development	HS Leadership • AM MS RS • AD etc etc • PL • JP • IH	Education •Expand Residency •Expand Fellowships	Technology and IP development	Financial Modeling
Faculty Wellness		Research •NIH, other funding •Research consortiums •PHRI •MPOG •AQI	Perioperative Medicine •PSH/ValU •ERAS •PAIN	Practice and Staffing Models Operational Efficiency & Productivity

Faculty Development: Shared Responsibility

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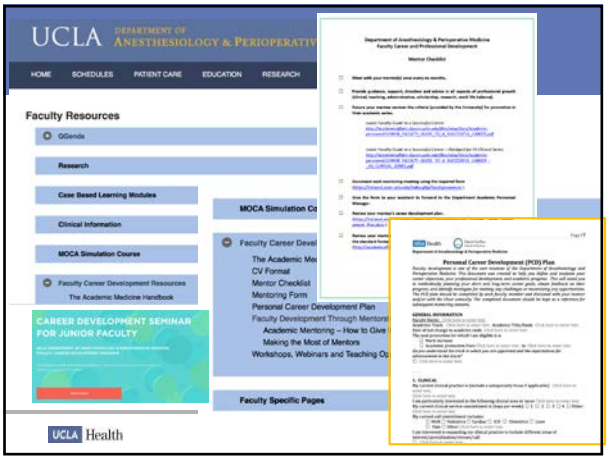
Mentorship

patient care
Improving health leadership BEGINS WITH technology
innovation quality alleviating suffering UCLA research
kindness promise discovery medicine
miracles integrity knowledge community
education
healthcare breakthroughs

UCLA Health



UCLA Health

Investing in Faculty Training and Career Advancement

- Faculty/Fellows Advanced Scholarship Training (*FF*AST) Career Development Program
- Collaboration with-
  - UCLA School of Engineering
  - Anderson Business School
  - Fielding School of Public Health
  - UCLA CTSI
  - Business of Science Center

UCLA Health

*FF*AST Career Development Program

- Fellows in Masters/ PhD
- Junior Faculty in Masters/ Phd- Post-doctoral training
- Time and Funding for the program
- Full Salary
- Seed grants
- Expectation to be on Academic Faculty Senate Track

UCLA Health

Paying for Faculty Training

UCLA Health

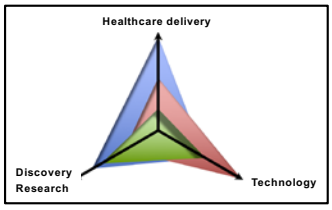
Successes:

- 22 faculty/fellows, 1 not retained at UCLA
  - Informatics (4); Clinical/Translational Research (8); Public health (2); Education (1); Innovation (2); MBA (2); Phd/Post-doc (4)
- 3 FAER grants, 1 K08 Grants, 6 Foundation grants
- 7 patents, 3 UCLA spin-offs in technology
- Development of new research programs
- Research collaborations with other depts and schools
- Training fellowships
- Philanthropy from alumni
- Culture change

UCLA Health

Innovation

Program for Innovation → "ABC" Center for Innovatio



UCLA Health

Why we created an Informatics/Analytics Division

- Effective Innovation (QI, Research, Digital technology development) requires data
- Provides a resource for clinical research
- Partner in precision health
- Add value and better partner with the Health System
- Lets you demonstrate results

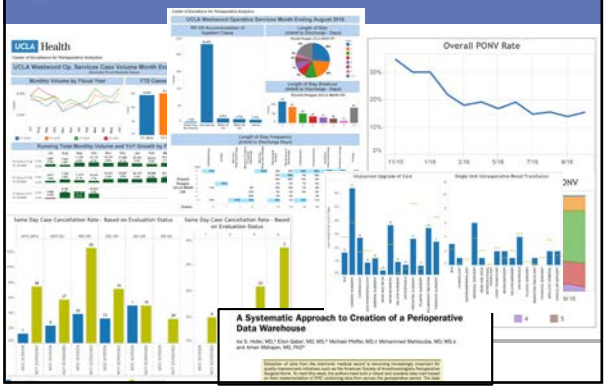
UCLA Health

Division of Informatics and Analytics

- Find the right people
  - Board certification in informatics
  - Data scientists
  - Programmers
  - Computer scientists
- Invest in infrastructure
  - It can take 2-4 years to get large scale data from the EMR
- Partner extensively
  - Health System, School of Engineering, School of Business
  - Other Departments
  - Other Institutions

UCLA Health

What An Informatics Infrastructure Looks Like



Innovation: Technology Development Hub

Value created by Academic Anesthesiology

Devices	Digital
Closed Loop Systems	Real-time decision support analytics
Wireless Biosensors/ wearables	Prescriptive Analytics
Tele-Care/ Remote systems	Med Apps

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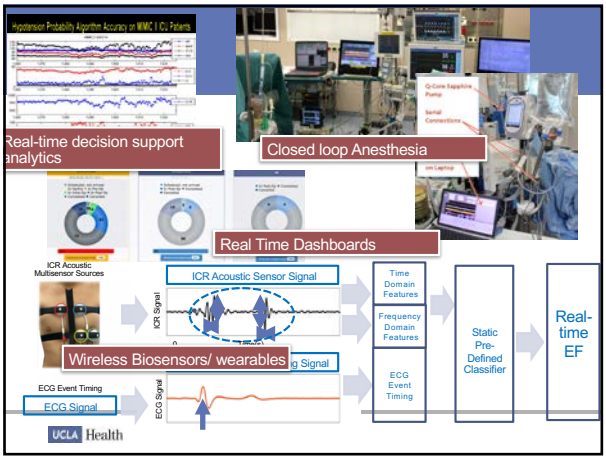


Department of Anesthesiology Wellness Program

The mission of the Faculty Wellness program is to--

- Increase awareness of healthy lifestyle behaviors
- Provide opportunities to practice these healthy lifestyle behaviors.

UCLA Health

Department of Anesthesiology Wellness Program

Rapidly growing department: People and places

Anesthesiology stressful specialty

Physician burnout increasingly common

- Medscape Lifestyle Report 2016: burnout in anesthesiologists reported at 50% (increased from 44% in prior year)

Personal impact as well as on Quality of Care

UCLA Health

Department of Anesthesiology Wellness Program

- Fitness/Physical Health/ Mental Health
- Education
- Resilience Training
- Dealing with Adverse Outcomes
- Social networking

UCLA Health

Department of Anesthesiology Wellness Program

Fitness/Health/Mental Health:

- Meditation sessions
- Mindfulness training
- UCLA Urban Zen representatives
- Farm Fresh To You
- Gym benefits
- UCLA fitness/fundraising events-- AHA Heart Ru
- Fitness events around Los Angeles

UCLA Health

Department of Anesthesiology Wellness Program

Education:

- Retirement planning
- Resilience Training
- Time Management
- Emotional Intelligence
- Healthy Eating
- Mindfulness
- Dealing with disruptive coworkers
- Ergonomics and safe patient handling

UCLA Health

Department of Anesthesiology Wellness Program

Dealing with adverse outcomes

- Peer Support: 1:1 Peer Support for individual clinicians and group peer support for healthcare teams
- Debriefing with colleague, Balint Rounds, Schwartz Rounds
- Return to duty considerations
- Additional resources for future needs, align with UCLA Health System groups
- Assistance with potential legal procedures
- Raising awareness

UCLA Health

Department of Anesthesiology Wellness Program

Resilience Training:

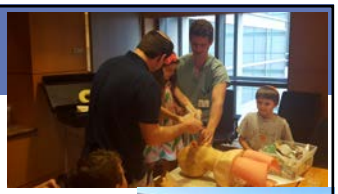
SMART-OP: Stress Management and Resilience Training for Optimal Performance: Collaboration with NASA- Dr Raphael Rose

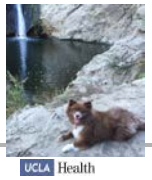
UCLA Pediatric Resilience Training Program: Dr Barbara Bursch

UCLA Health

Social Events

- UCLA Planetarium visit
- Take Your Kids to Work Day
- Hike in Thousand Oaks
- Social evenings/ Happy hours for faculty from different sites



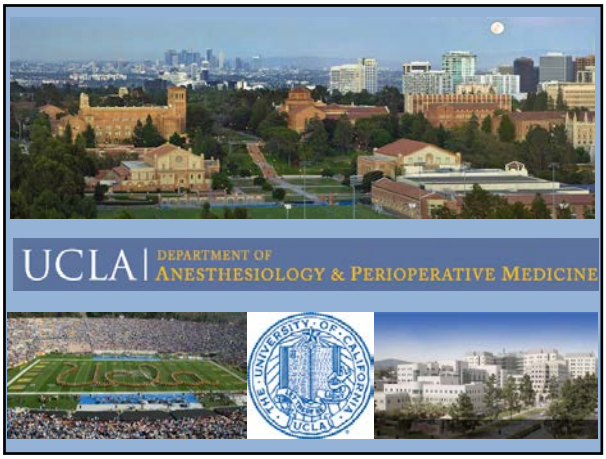


UCLA Health

Monthly Wellness Calendar

Keep everyone informed and engaged about events

UCLA Health



HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

Getting Your Thoughts on Making FAER Grants and Programs Better

James C. Eisenach, M.D.

11/11/2016
1:15pm – 1:30pm

FAER Questionnaire on junior faculty research career development grants

1. My department has junior faculty with aspirations for a career with major emphasis on and time commitment to research
    Yes/No

2. My department has received a 2-year FAER mentored research training grant for junior faculty in the past 5 years
    Yes/No

3. If your department did receive a FAER mentored research training grant in the past 5 years, did this lead to major extramural funding (e.g., NIH, DoD) for the awardee?
    Yes/No

4. FAER junior faculty research grants provide $175,000 over two years to fund research and career development and require a 75% protected time (check all that apply)
    75% nonclinical time is appropriate for the development of a physician-scientist
    75% nonclinical time is too much for junior faculty, who should first and foremost be outstanding clinicians
    75% nonclinical time is beyond the means of the department without requiring a major reduction in the awardee's salary

5. Given the size of the FAER grant, my department and faculty applicant (whose salary might be reduced) can afford to provide protected time for 2 years at the level of (check the highest level you could afford)
    75% (current requirement)
    60%
    50%
    Other (write in)

6. Given the size of the FAER grant and 75% protected time, my department would be willing and could afford to support this many awardees simultaneously (check the highest number)
    1
    2
    3
    Other (write in)

7. I would like to discuss my thoughts on FAER research grants with FAER leadership
    Yes/No
    If Yes, provide name

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

Perfect Storm

Charles W. Whitten, M.D.

11/11/2016
1:35pm – 2:10pm

PERFECT STORM PART II: IS A TSUNAMI BREWING?

Charles W. Whitten, M.D.
Professor and Chairman

Margaret Milam McDermott Distinguished Chair
in Anesthesiology and Pain Management
Department of Anesthesiology and Pain Management

UT Southwestern Medical Center
5323 Harry Hines Boulevard
Dallas, Texas 75390-9068
Office phone: 214-648-5413
Fax: 214-648-5461
charles.whitten@utsouthwestern.edu

Conflict of Interest & Why am I qualified to do this?

- I have no conflicts except:

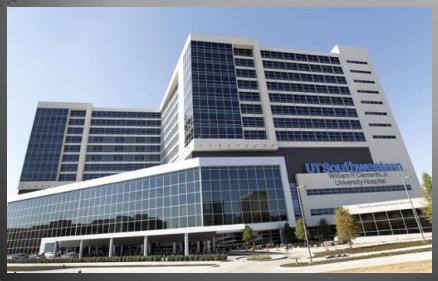
(1) I have a long standing interest in the economics of academic anesthesia practice dating back to collaborations which began with Amr Abouleish and others in the late 1990's.

(2) We continue to perform collaborative research utilizing national databases.

- At **UTSW** we have recently undergone over $2 billion of health care construction on Harry Hines Blvd. in Dallas, TX. Our hours of operation/sites of service have increased by almost 50% in the last year. Case volume in 2015 was greater than 150,000 Anesthetics.

2

William P. Clements, Jr. University Hospital December 6, 2014



3

Parkland Health and Hospital System August 20, 2015

4

Perfect Storm Overview: Part I

This has been presented from 2000-2011 and leaves a wonderful legacy for us in Academic Anesthesiology.

- **No data was presented in 2012 at the SAAA Meeting. I have included this for completeness in some of the slides.**

5

The Etiology of Perfect Storm Part I

Match Day 1994

6

Wall Street Journal
March 17, 1995 – *G. Anders*
"Once a hot specialty, Anesthesiology cools as insurers scale back"

- 1994 Grads-1,863 Residents graduate from Anesthesia Residencies
- 1995 Start – 892 Residents, consisting of 348 IMG's and 544 AMG's
- "This was the start of the lost generation." The specialty is now feeling this loss at another level, as individuals from this "lost generation" should be morphing into significant leadership positions.

7

Size of Residency Training Programs

- In 2015- 1,641 Senior Residents graduated (**35% women**). A total of 5,978 Anesthesiology Residents are enrolled in 133 Core Residency Programs.

Residency Production: Confounding Factors

- In 2015, we know that the following pursued ACGME fellowships:

Number of Programs	N=	Positions Filled	% Women
Critical Care Medicine	54	159	29%
Pain Medicine	97	336	24%
Pediatrics	53	191	59%
Adult Cardiothoracic	61	177	31%
OB	27	35	57%

8

Understanding Clinical Productivity for Anesthesiology Departments

Utilize the Following:

- Not Simple
- Key Point: Organizational factors that determine a facility type impact clinical productivity.
- To best understand, compare to similar types of facilities:
  - ASC to ASC
  - Community Hospital to Community Hospital
  - AMC / Trauma to AMC / Trauma

9

Understanding Anesthesia Clinical Productivity and Survey Results

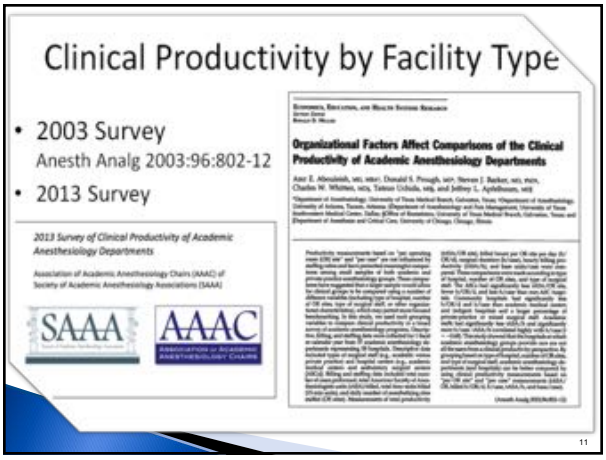
Utilize the Following:

- Figure from 2003 Paper
- Median Data by Facility Type, 2013 Survey

10

Clinical Productivity by Facility Type

- 2003 Survey
  Anesth Analg 2003:96:802-12
- 2013 Survey



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Benchmarks by Facility Type SAAA 2013

MEDIAN VALUES (50%)	All Groups (n=143)	All non ASC (n=111)	ASC (n=32)	AMC/ Indigent* (n=80)	Children (n=11)	Community (n=20)
Sites						
tASA/OR	tASA = Total ASA units billed, OR = Anesthetizing Site					
H/OR/d	H = 4 time units, d = 250 weekdays/year					
tASA/h	Hourly productivity					
Base/case						
H/case						
Staffing Ratio						

* Includes 1 Heart Hospital

2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, ww2.SAAAhq.org

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Benchmarks by Facility Type SAAA 2013

MEDIAN VALUES (50%)	All Groups (n=143)	All non ASC (n=111)	ASC (n=32)	AMC/ Indigent* (n=80)	Children (n=11)	Community (n=20)
Sites	21.0	26.0	4.0	31.4	18.0	14.5
tASA/OR						
H/OR/d						
tASA/h						
Base/case						
H/case						
Staffing Ratio						

What is Overall Clinical Productivity?

* Includes 1 Heart Hospital
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

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Benchmarks by Facility Type- SAAA 2013

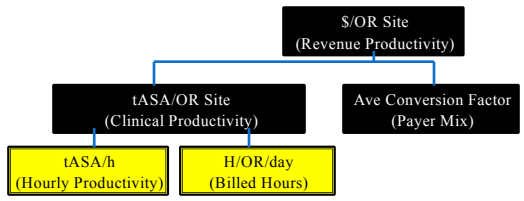
MEDIAN VALUES (50%)	All Groups (n=143)	All non ASC (n=111)	ASC (n=32)	AMC/ Indigent* (n=80)	Children (n=11)	Community (n=20)
Sites	21.0	26.0	4.0	31.4	18.0	14.5
tASA/OR	11,215	11,632	8,912	11,982	10,839	10,630
H/OR/d						
tASA/h						
Base/case						
H/case						
Staffing Ratio						

What determines tASA/OR?

* Includes 1 Heart Hospital
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

14

Anesthesia Clinical Productivity



$$tASA/h = \frac{(base\ unit + time\ unit)}{(time\ unit/4)}$$

15

Benchmarks by Facility Type- SAAA 2013

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H/OR/d						
tASA/h	6.7	6.7	7.4	6.5	7.3	7.1
Base/case	5.8	6.0	4.5	6.2	5.8	5.4
H/case	2.2	2.3	1.2	2.5	1.7	1.6
Staffing Ratio						

* Includes 1 Heart Hospital
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

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Benchmarks by Facility Type- SAAA 2013

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Staffing Ratio						

* Includes 1 Heart Hospital
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

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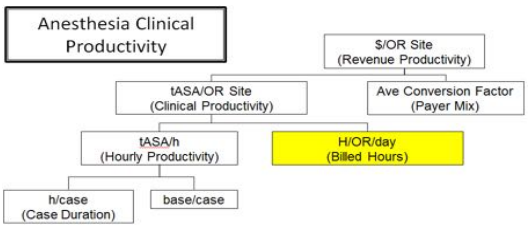
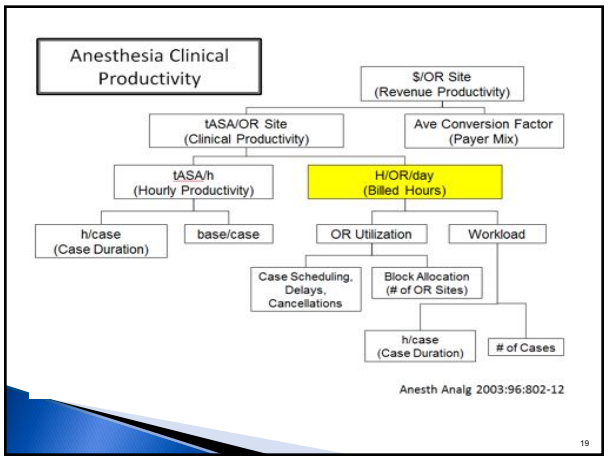
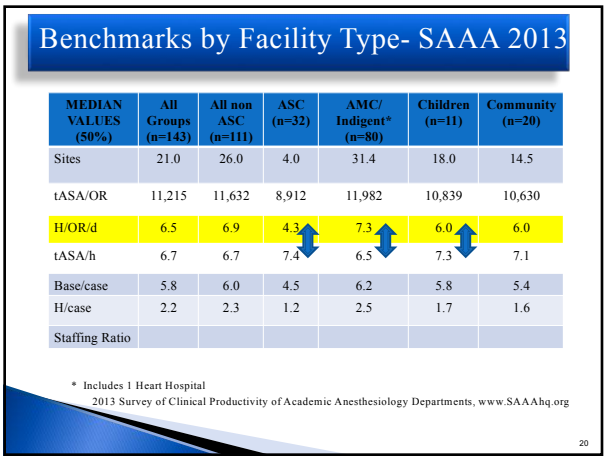
Anesthesia Clinical Productivity



Anesth Analg 2003:96:802-12

18


Anesthesia Clinical Productivity
$/OR Site (Revenue Productivity)
tASA/OR Site (Clinical Productivity)
Ave Conversion Factor (Payer Mix)
tASA/h (Hourly Productivity)
H/OR/day (Billed Hours)
h/case (Case Duration)
base/case
OR Utilization
Workload
Case Scheduling, Delays, Cancellations
Block Allocation (# of OR Sites)
h/case (Case Duration)
# of Cases
Anesth Analg 2003:96:802-12
19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H/OR/d | 6.5 | 6.9 | 4.3 | 7.3 | 6.0 | 6.0
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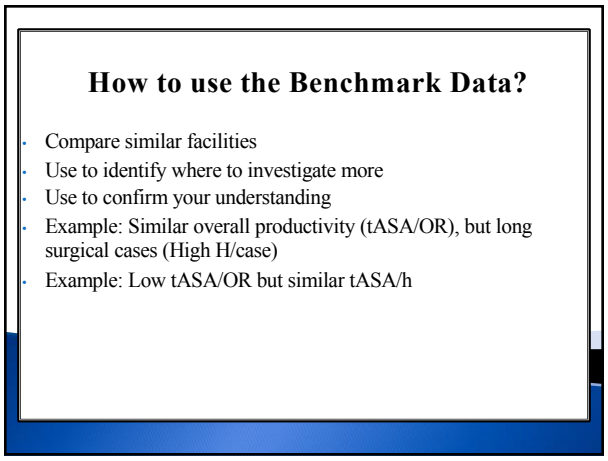
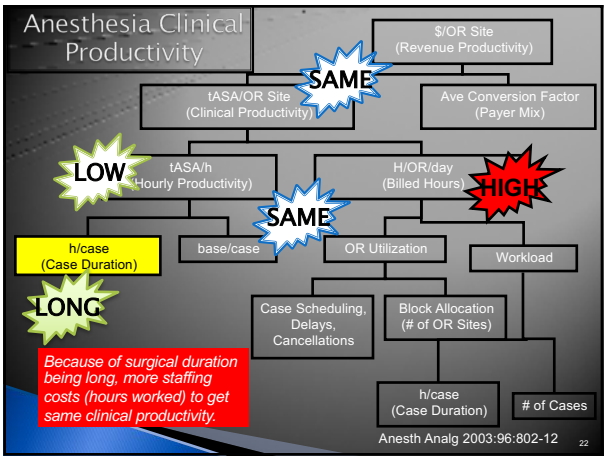
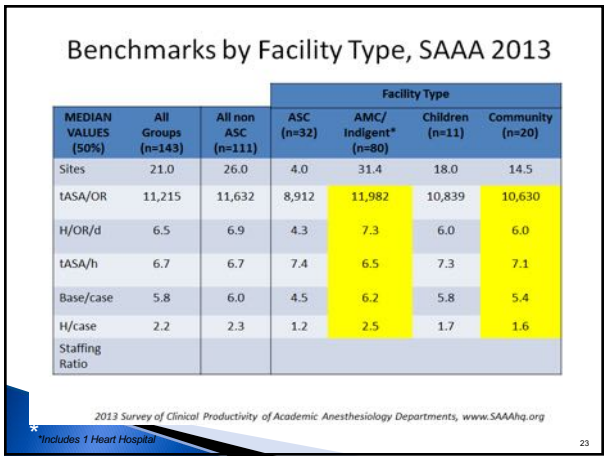
Base/case | 5.8 | 6.0 | 4.5 | 6.2 | 5.8 | 5.4
H/case | 2.2 | 2.3 | 1.2 | 2.5 | 1.7 | 1.6
Staffing Ratio
* Includes 1 Heart Hospital
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org
20


How to use the Benchmark Data?
Compare similar facilities
Use to identify where to investigate more
Use to confirm your understanding
Example: Similar overall productivity (tASA/OR), but long surgical cases (High H/case)
Example: Low tASA/OR but similar tASA/h


Anesthesia Clinical Productivity
$/OR Site (Revenue Productivity)
SAME
tASA/OR Site (Clinical Productivity)
Ave Conversion Factor (Payer Mix)
LOW
tASA/h (Hourly Productivity)
H/OR/day (Billed Hours)
HIGH
SAME
h/case (Case Duration)
base/case
OR Utilization
Workload
LONG
Case Scheduling, Delays, Cancellations
Block Allocation (# of OR Sites)
Because of surgical duration being long, more staffing costs (hours worked) to get same clinical productivity.
h/case (Case Duration)
# of Cases
Anesth Analg 2003:96:802-12
22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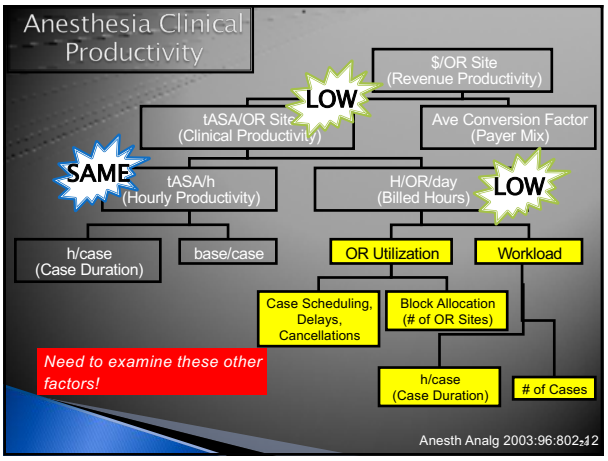
Base/case | 5.8 | 6.0 | 4.5 | 6.2 | 5.8 | 5.4
H/case | 2.2 | 2.3 | 1.2 | 2.5 | 1.7 | 1.6
Staffing Ratio
2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org
*Includes 1 Heart Hospital
23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Ave Conversion Factor (Payer Mix)
SAME
tASA/h (Hourly Productivity)
H/OR/day (Billed Hours)
LOW
h/case (Case Duration)
base/case
OR Utilization
Workload
Case Scheduling, Delays, Cancellations
Block Allocation (# of OR Sites)
Need to examine these other factors!
h/case (Case Duration)
# of Cases
Anesth Analg 2003:96:802-12

Other Findings

- Breakdown by number of sites, type of surgical staff (academic or mixed private/academic)
- Staffing ratio

Benchmarks by Facility Type, SAAA 2013

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Base/case	5.8	6.0	4.5	6.2	5.8	5.4
H/case	2.2	2.3	1.2	2.5	1.7	1.6
Staffing Ratio	1.8	1.7	2.8	1.8	1.7	1.8

*Includes 1 Heart Hospital

2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

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Benchmarks by Facility Type, SAAA 2013

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H/case	2.2	2.3	1.2	2.5	1.7	1.6
Staffing Ratio	1.8	1.7	2.8	1.8	1.7	1.8

*Includes 1 Heart Hospital

2013 Survey of Clinical Productivity of Academic Anesthesiology Departments, www.SAAAhq.org

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Benchmarks 2013

MEDIAN VALUES (50%)	All Groups (n=143)	All non ASC (n=111)	ASC (n=32)	AMC/ Indigent* (n=80)	Children (n=11)	Community (n=20)	Academic Only (n=57)	Mixed/ Private Practice ** (n=54)
Sites	21.0	26.0	4.0	31.4	18.0	14.5	29.0	25.0
FTE	12.0	15.0	2.0	17.0	13.0	6.0	16.0	13.0
Staffing Ratio	1.8	1.7	2.8	1.8	1.7	1.8	1.8	1.7
tASA/case	14.3	15.6	9.1	16.6	12.5	12.3	16.6	14.1
Base/case	5.8	6.0	4.5	6.2	5.8	5.4	6.2	5.8
H/case	2.2	2.3	1.2	2.5	1.7	1.6	2.5	2.1
tASA/h	6.7	6.7	7.4	6.5	7.3	7.1	6.5	6.8
Case/OR/d	3.1	3.0	3.6	3.0	3.5	3.2	2.9	3.3
tASA/OR/d	11,215	11,632	8,912	11,982	10,839	10.630	12,023	11,445
H/OR/d	6.5	6.9	4.3	7.3	6.0	6.0	7.2	6.8

*Includes 1 Heart Hospital, **Private practice only

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2013 AAAC/SAAA Clinical Productivity Report

Key Findings:

1) Similar to previous reports, ambulatory surgical centers (ASC) have different clinical productivity measurements than full-service facilities. This finding is consistent with the fact that ASC are smaller, do less complex cases, do shorter procedures, and do not function 24/7.
2) Smaller facilities (1-9 sites, 10-19 sites) were associated with shorter cases that leads to higher tASA/h productivity. The number of billed hours worked per day (H/OR/d) was less that may be consistent with less after-hour cases and weekend cases.
3) Compared to AMC's, Children's Hospitals (not reported in 2003 report) showed lower case duration cases that leads to higher tASA/h numbers. But the overall tASA/OR was not much less despite lower H/OR/d due to this higher hour billing productivity.

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SAAA YEARLY SURVEY 2015

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2015 Average Department

	Mean	+/- SD	Median
Surgical Anesthesiologist FTE's	49.3	30.5	44.5
Pain	4.3	3.2	4.0
ICU	3.7	4.2	2.1
Residents			
CA-1	14.2	6.8	14
CA-2	13.8	6.8	13
CA-3	13.8	7.3	13
CA-4	9.6	11.0 (Max 67)	6

Per ACGME Average sized Program – CAs 1,2 & 3 = 41.8

Internship			
CA-0	9.0	6.5	9
Interns in home Dept.	10.9	5.5	10

31

National Clinical Coverage

	Mean	+/- SD	Median
How many OR's does your Department cover each day?			
Sunday	3.7	3.8	3
Monday	40.8	21.8	38
Tuesday	41.1	22	38
Wednesday	40.9	21.6	37
Thursday	40.9	21.6	38
Friday	40.5	20.9	37
Saturday	4.4	4.2	4
How many Non-OR/Off Site locations does your Department cover each day?			
Sunday	0.8	1.7	0
Monday	10.9	8.6	8
Tuesday	11.1	8.6	9
Wednesday	11	8.5	9
Thursday	11	8.5	9
Friday	11	8.3	9
Saturday	1.0	1.9	0
How many OB deliveries with anesthesia involvement does your Department have each year?	2,992	2,073 (maximum 10,099)	2,651

32

Total Work FTE

	Mean	+/- SD	Median
If your institution funds retirement/pension, what is the average percentage of total compensation provided?	9.7%	5.36%	9%
What is the total number of part-time clinical physicians faculty that your Department employs?	9.1	9.68	6
What is the average percentage of faculty fringe benefits, excluding malpractice premium and pension as compared with the base?	18.2%	9.57%	17%
What is the total number of clinical faculty members who have 40% or greater academic time for scholarly work ?	3.6	5.46	1

33

Clinical Coverage

	Mean	+/- SD	Median
How many faculty do you have on each of these services per day on average, Monday thru Friday in the daytime.			
OB	1.4	0.95	1
ICU	1.7	1.46	1
Acute Pain	1.4	1.16	1
Pain Clinic	2.4	1.81	2
Pre-Op Clinic	1.0	0.57	1
Other	0.3	1.00	0
Total	8.2		

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CRNAs/AAs

	Mean	+/- SD	Median
Paid for by Dept.	42.7%	43.9%	28%
Paid for by your Hospital	52.8%	44.8%	52%
By other sources	4.4	15.6%	0%

*Previous years have reported these as total #'s. Total # of CRNAs, AAs employed is not available.

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Average Department Clinical Coverage Monday-Friday

	Mean	+/- SD	Median
ORs	40.8	21	39
Off Site	11.0	11.0	8
OB	1.4	0.95	1
ICU	1.7	1.46	1
APS	1.4	1.16	1
Pain	2.4	1.81	2
Pre-Op	1.0	0.57	1
Other	0.3	1.00	0
Total	60		
Faculty/Sites	**57.3/60= 0.9555**		

36

Average National Department Clinical Revenue

	Mean	+/- SD
Average Department Clinical Revenue	$ 32,824,158	$ 21,381,643
Clinical Revenue per FTE	$ 542,346	$ 223,525
Research Revenue	$ 1,772,563	$ 3,545,230 (Max $21,649,535)
Research Revenue per FTE	$ 21,997	$ 35,654
Total Institutional Support	$ 10,472,349	$ 8,413,381
Total Institutional Support per FTE	$ 191,388	$ 123,743
Support from the Hospital	$ 8,176,628	$ 7,049,378
Support from Medical School	$ 1,012,692	$ 1,637,578
Support from other sources	$ 1,283,029	$ 3,683,966
Other income	$ 444,286	$ 1,136,125
Total Department Revenue	$ 45,513,357	$ 26,520,998
Total Department Revenue per FTE	$ 761,825	$ 207,213

37

Billing Production National

	Mean	+/- SD
Total Anesthesia Units Billed	785,703	1,018,003
Total Anesthesia Units Billed Per FTE	13,996	11,128
Time Units per Case	12.3	4.33
Cases Billed	43,430	22,504
Total Work RVUs for Intraoperative Procedures (Line Placement/TEE/Blocks) (n=52)	28,726	49,134
How many work RVUs did you bill for your ICU Service last year? (n=55)	17,245	19,074

38

Pain Billing Production National

	Mean	+/- SD
How many work RVUs did you bill for Pain Management last year?		2,737
In-Patient-Acute Pain	4,704	6,957
Regional Blocks-Post-Op	4,418	10,912
In-Patient-Chronic Pain	987	2,737
Out-Patient-Chronic Pain	15,963	16,023

39

Billing Data

	Mean	+/- SD
What is your gross unit value?	$122.00	$ 42.50
What is your average $ amount collected per unit?	$ 38.00	$ 15.40
What unit value do you receive from Medicaid?	$ 17.50	$ 7.60

40

ICU Data

	Mean	+/- SD	Median
On average how many patients does each fellow cover while on service?	6.7	7.4	3
How many ICU weeks required for a faculty member to be considered as 100% clinical with no OR commitment?	23.7	13.1	25
How many ICU weeks required for faculty member to fulfill their departmental on call requirement?	13.7	7.41	12
Following a seven day ICU assignment, how many post-call off are provided to your intensivist?	2.5	2.27	2
How many distinct ICU does your Department cover?	2.5	1.48	50

41

Billing – Median Data

	Median
Total Anesthesia Units	600,000
Total Anesthesia Units Billed per FTE	12,234
Total Anesthesia Time Units Billed Per Case	10.5
What is the Average Unit Dollar Amount Collected?	$36.00

42

Margin Analysis

	Mean	+/- SD
Margin (n=89)	$ 1,578,345	$4,014,126
Margin: Those with profit(n=58)	$3,069,624	$4,059,477
Margin: Those with loss (n=20)	-$1,878,275	$2,093,664

43

Compensation

How much additional compensation do you pay for the following subspecialty?	Mean	+/- SD	Median
For Departments paying additional comp.			
Cardiac	$ 21,232	$ 17,776	$ 15,000
ICU	$ 18,288	$ 17,423	$ 10,000
Pediatrics	$ 23,786	$ 25,101	$ 15,000
Pain	$ 20,481	$ 25,593	$ 10,000
OB	$ 14,059	$ 14,928	$ 10,000
Neurology	$ 15,115	$ 16,328	$ 10,000
Call – How much do you pay per hour for late/weekend In-House Coverage	$160.00	$37.80	$ 150.00

44

SAAA 2015 Compensation Total Compensation Including Income Plus Pension Contributions

Compensation Includes Income Plus Pension Contribution	25%	Median	75%
Instructor	256,059	280,000	312,910
Assistant Professor	308,560	336,400	367,289
Associate Professor	333,880	372,909	403,753
Professor	349,318	391,707	428,370
Chair	520,000	568,560	632,575

45

AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Total Anesthesiology	Chair	526	589	663
Total Anesthesiology	Chief	362	416	468
Total Anesthesiology	Professor	336	386	437
Total Anesthesiology	Associate Professor	323	370	420
Total Anesthesiology	Assistant Professor	298	341	385
Total Anesthesiology	Instructor	231	282	340

46

AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: General	Chair	524	588	661
Anesthesiology: General	Chief	366	414	475
Anesthesiology: General	Professor	336	386	434
Anesthesiology: General	Associate Professor	325	367	416
Anesthesiology: General	Assistant Professor	297	341	385
Anesthesiology: General	Instructor	232	287	342

47

AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: Pain Management	Chair			
Anesthesiology: Pain Management	Chief	407	441	464
Anesthesiology: Pain Management	Professor	320	350	405
Anesthesiology: Pain Management	Associate Professor	301	330	381
Anesthesiology: Pain Management	Assistant Professor	289	323	388
Anesthesiology: Pain Management	Instructor	215	255	326

48

AAMC Compensation Data (No Pension Contributions)

Department	Rank	P25	P50	P75
Anesthesiology: Pediatric	Chair			
Anesthesiology: Pediatric	Chief	407	386	418
Anesthesiology: Pediatric	Professor	352	411	466
Anesthesiology: Pediatric	Associate Professor	342	407	441
Anesthesiology: Pediatric	Assistant Professor	309	351	385
Anesthesiology: Pediatric	Instructor	232	257	319

49

Faculty Benefits

	Mean	+/- SD	Median
Number of vacation days	25.7	5.58	24
Number of meeting days	8.0	4.46	8

50

Total National Department Support 2015 (Without CRNA Support)

	Mean	+/- SD	Median
Support without CRNA Support	$ 7,727,345	$ 6,347,077	$ 6,728,261
Support without CRNA Support per FTE	$ 150,182	$ 120,352	$ 122,806

51

Mean Total National Department Support (Without CRNA Support)

	$ Support	$ Per FTE (Mean)
2009	$ 5,630,386	$ 133,196
2010	$ 6,579,848	$ 128,619
2011	$ 7,008,978	$ 140,435
2012	$ 6,920,575	$ 132,339
2013	$ 7,413,000	$ 144,000
2014	$ 7,851,927	$143,964
2015	$ 7,727,345	$150,182

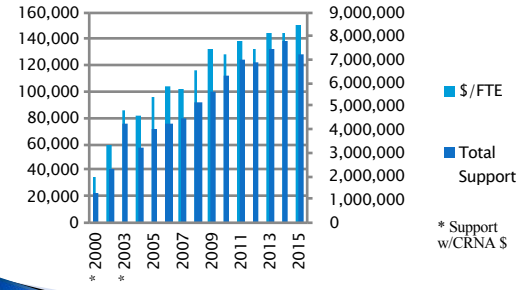
52

Mean National Institutional Support

Total Support/FTE		
	2015	$ 191,912
	2014	$ 196,441
	2013	$ 181,000
(Total support – CRNA Support)/FTE	2015	$ 150,182
	2014	$ 143,964
	2013	$ 144,000
	2012	$ 132,338
	2011	$ 140,435
(Support without CRNA support)/Site	2015	$ 7,727,345 ÷ 60= $ 128,789
	2014	$ 131,744
	2013	$ 137,277
	2012	$ 128,831
	2011	$ 134,934

53

Total National Department Support (Without CRNA Support)



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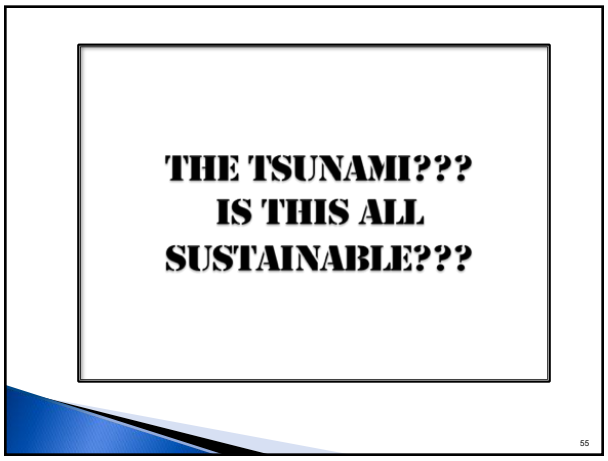
THE TSUNAMI???
IS THIS ALL
SUSTAINABLE???
55


56

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

Global Health: Is the Expense Worth the Outcome? Pro-Con Debate (Pro)

Berend Mets, M.B., Ch.B., Ph.D., FRCA, FFA(SA)

11/11/2016
2:20pm – 2:30pm

Global Health is the Expense worth the Outcome:
Pro:

Berend Mets MB, PhD, FRCA
Eric A Walker, Professor and Chair of Anesthesiology
Penn State University College of Medicine

Goals.

Present
(1) Anesthesia and Surgical Care Crisis
(2) Lancet Commission and DCP 3 recommendations
(3) Role of NGO's such as the WFSA in providing possible solutions
(4) Motivate that the expense will help provide the necessary outcome.

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HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

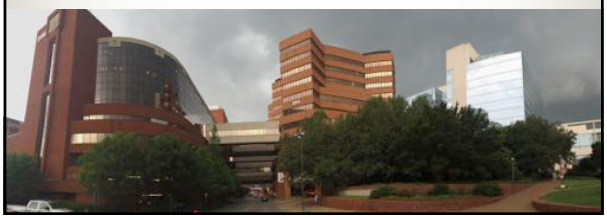
Global Health: Is the Expense Worth the Outcome? Pro-Con Debate (Con)

Warren S. Sandberg, M.D., Ph.D.

11/11/2016
2:30pm – 2:40pm

Global Health: The Expense is NOT Worth the Outcome

Warren S. Sandberg, M.D., Ph.D.
Professor & Chair,
Department of Anesthesiology,
Vanderbilt University Medical Center



Disclosures

- None

"Nothing in the world can take the place of Persistence. Talent will not; nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not; the world is full of educated derelicts. Persistence and determination alone are omnipotent. The slogan 'Press On' has solved and always will solve the problems of the human race." *Calvin Coolidge*

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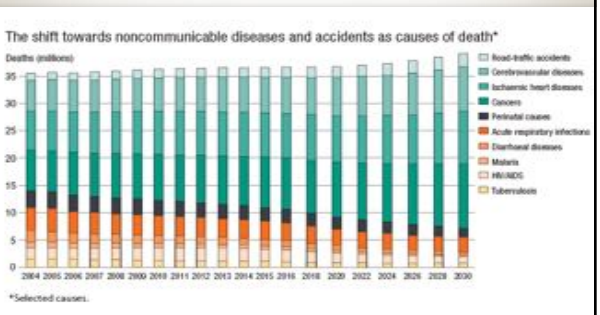
WHO World Health Report 2008



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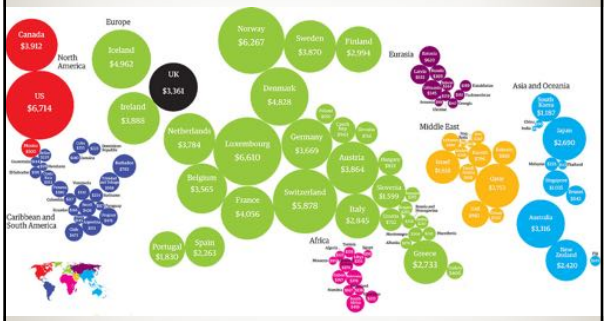
Astonishing Disparities



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Why Would A Big US Anesthesia Program Do Medical Missions?

- Recruit high impact trainees to our programs
- Our trainees return with:
  - Better sense of purpose
  - Improved cultural sensitivity
  - Parsimonious approach to modern surgery & anesthesia

But do we get any real value?

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Short Term Medical Mission: Benefits

- Direct Benefits:
  - Typically 80-100 operated patients per week
  - Typically cases that cannot be performed in local setting without external assistance
- BUT:
  - Do we know whether these operations improve the lot of the recipients?
  - Have we (meaningfully) improved *population* health in the recipient community?

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True Benefit Unknown

- We think we're doing the right thing
- So we should keep doing it
- Without really considering the cost
- And not really working on defining the benefits
- And not really worrying about unintended consequences
- Or actual harms…

Absent answers to any of these questions, we can't draw any conclusions about the value of outcomes

Short Term Medical Mission: Cost

- Two week d[illegible], one resident:
  - Direct resi[illegible] salary & benefits ($2500)
  - CRNA backfill [illegible] benefits (ca $8000)
  - Airfare (ca $[illegible])
  - Possible faculty (backfill) costs for coverage ($11,000)

Is the short term (anesthe[illegible]) outcome worth $12.5-23.5K per 200 pa[illegible]nts?

Rough annual values:
CA__ salary at approximately $50,000/y;
CRNA salary at $160,000/y; 29% fringe rate.
Faculty backfill cost estimate: SAAA median salary at $250,000/year; 15% fringe rate.

Chronic Unmet Surgical Need and Unsafe Anesthesia

- STMMs are just a drop in the bucket of an ocean of need
  - 2 Billion People without access to Surgery
  - Single-digit #s of qualified anesthetists in some countries
  - 35 Million Anesthetics/annually without Pulse Oximetry

Lancet 2010, Funk et al.

- AND:
  - No leverage: dire[illegible]service ends when we leav[illegible]
  - Dangerous se[illegible]perception that we're actually helping

Short Term Medical Missions: Cost

- Inefficient application of resources
  - Solutions developed to developed world standards and customs
  - Wastes resources; fewer people served
- Major unintended consequences
  - Example: Cholera epidemic introduced to Haiti by UN aid teams https://en.wikipedia.org/wiki/2010_Haiti_cholera_outbreak
  - Exogenous missions preempt development of local infrastructure -
    - Induced dependency

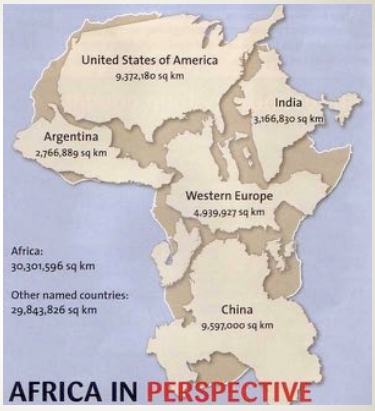
Conclusion

- Unproven direct benefit to the traveller
- Definite material cost to send
- Un-assessed direct benefit to LIC patients
- Minimal impact on population health
- Sometimes spectacular harm

The outcomes of global health don't justify the costs

Leverage Required

- Africa is big!
- Fastest pop growth of regions
- Volunteers doing 200 cases at a time can't make a dent



Educators Needed

Every day, approximately **800** **women die** from preventable causes related to pregnancy and childbirth.

99% of all **maternal deaths** occur in developing countries.

2 billion people *without* access to safe anesthesia globally.

AFRICA bears **25%** of the global burden of disease with only **2%** of the world's workforce.

90-95% of the physicians live and work in urban settings but more than **50% of the surgical need is rural.**

Only 10% of anesthesiologists in Sub-Saharan Africa work in public hospitals.

Anesthesia-related MORTALITY is ONE of the TOP FOUR causes of death in the **operative maternal patient**, which is primarily occurring in rural hospitals and **90% of which are avoidable.**

Why Insist on True Capacity Building?

- Recruit high impact trainees to our programs
- Our trainees return with:
  - Better sense of purpose
  - Improved cultural sensitivity
  - Parsimonious approach to modern surgery & anesthesia
  - Real appreciation of leverage
- Training site receives:
  - Lifetime training; potentially impacting 1000s per trained individual

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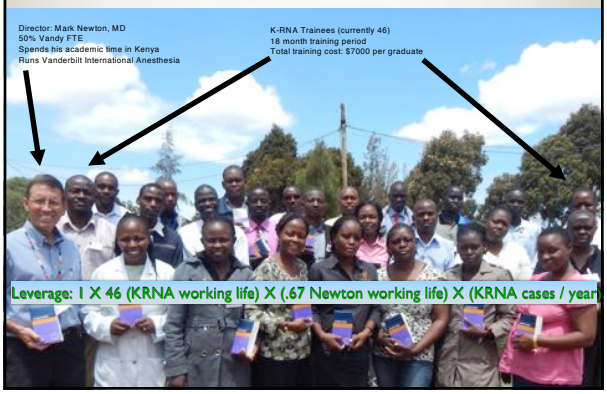
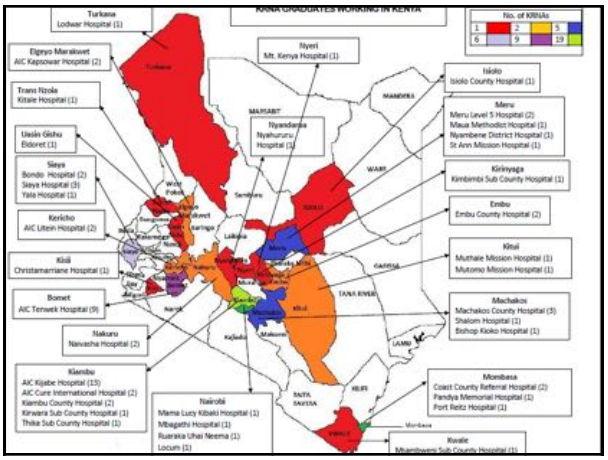
Kenyan Registered Nurse Anesthetists





ImPACT Africa (Improving Perioperative Anesthesia Care and Training)

GE Foundation

ImPACT Africa Goals (5 Year)

1. Train 45 KRNAs for Western Kenya
2. Develop a packageable anesthesia curriculum for scale up.
3. Develop a training program for anesthesia in W. Kenya within the GOK (Kijabe-model)
4. Develop a system for determining Perioperative Mortality/Morbidity data in East Africa.
5. Develop 2 Simulation Centers of Excellence in East Africa (Kijabe and W Kenya)

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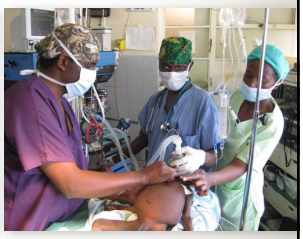
Training of Trainers: Future Educators in East Africa

- Developing 2nd generation educators in anesthesia

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Testing Population Benefit

Highlights of ImPACT Data Collection (POMR, Complications)

- June 1, 2014 start date
- 7900 cases recorded by April 2015 (Kijabe)
- POMR:
  - 24 hr: 1.26%
  - 48 hr: 1.38%
  - 7 days: 1.55%
- Safe Surgery Checklist (SSC) = 99.2%
- 12.3 % emergency cases
- 36.4% regional/spinal cases overall
- Now collecting data across Kenya

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I don't like winning the Con side

- Look for opportunities to create beneficial leverage
  - In practice, this means long-term teaching
  - Long term capacity building
    - As co-development, not *deus ex machina*
- Engage in activities that will develop evidence of benefit
  - To individuals
  - More importantly - to populations

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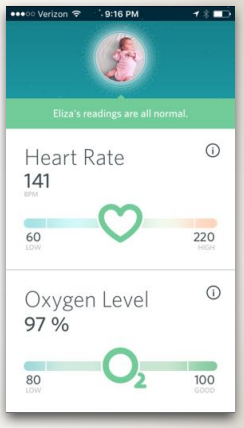
We take miracles for granted

- Sock pulse oximetry for infants
  - To your phone
- Costs less than a LifeBox
- Buy LifeBoxes, please



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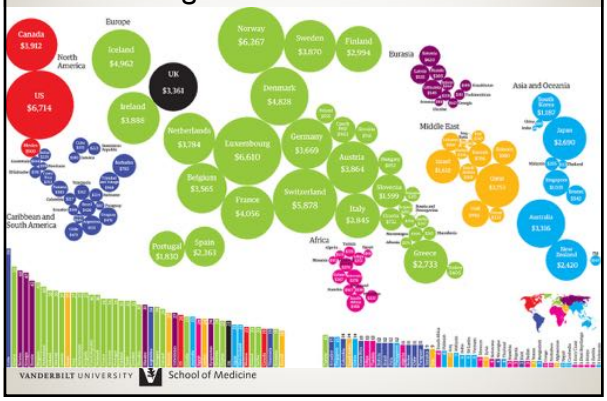
Top 10 Causes of Death: WHO LIC 2008

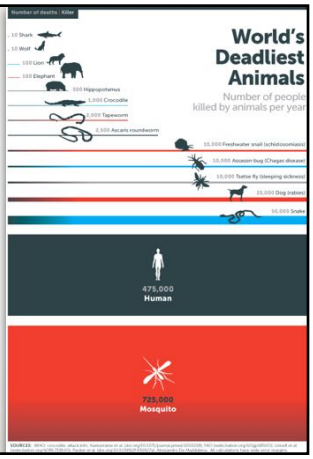
	Deaths (M)	% Deaths
Lower respiratory infections	1.05	11.3%
Diarrheal diseases	0.76	8.2%
HIV/AIDS	0.72	7.8%
Ischemic heart disease	0.57	6.1%
Malaria	0.48	5.2%
Stroke/cerebrovascular disease	0.45	4.9%
Tuberculosis	0.40	4.3%
Prematurity and low birth weight	0.30	3.2%
Birth asphyxia and birth trauma	0.27	2.9%
Neonatal infections	0.24	2.6%

Real Shortages of Personnel



Mosquitoes?

- Why does an anesthesia department sponsor research into mosquito renal physiology?
- Malaria



VANDERBILT UNIVERSITY School of Medicine

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

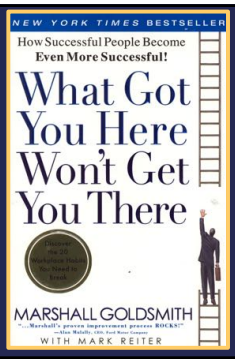
How Do Department's Resources Get Renewed Without Undergoing a Chair Change?

Roberta Hines, M.D.

11/11/2016
3:20pm – 3:35pm

How Do Department's Resources Get Renewed Without Undergoing a Chair Change ?

Roberta L. Hines, MD
Nicholas M. Greene Professor and Chair
Department of Anesthesiology
Yale School of Medicine
New Haven, CT 06520



How Do Department's Resources Get Renewed Without Undergoing A Chair Change

Process

Why
Where to Start
Who

Why

Clinical Expansion

Clinical Growth / Acquisition

New Program Development

Institutional Strategic Initiatives
Network Development/Expansion

Population Health (Bundled Payments)

Academic Opportunities
Institutional / Departmental

Strategic Initiatives
Retention Packages

Educational Initiatives

Departmental
- Residency Size
- Fellowship

Institutional
- Medical Student Involvement
- GME Restructuring
- CME Opportunities

Community Outreach

Where to Start

Institutional Structure

(Follow the Money)

Institutional Structure

AMC → Single Funds Flow

Institutional Structure

AMC → Hospital
AMC → Medical School

Institutional Structure

AMC → Hospital
AMC → Practice Plan / Foundation
AMC → Medical School

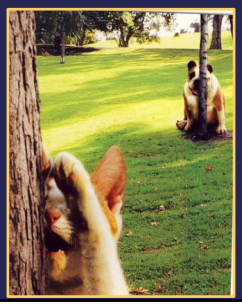
Institutional Structure

Clinic Model
Private Hospital → Contracted Services

Who

(Leveraging Relationships)

"There Are No Secrets"



Who

Identifying Strategic Partners : Look Broadly

Who Are Your Competitors

Never Underestimate the Power of Face to Face Communication

Honor Your Commitments

Objectives

To provide participants with tools for developing a strategic approach to secure additional departmental resources based upon the following : defining institutional structure and governance; leveraging personal relationships and identifying new academic/clinical partnerships.

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How Do Department's Resources Get Renewed Without Undergoing a Chair Change?

Kevin K. Tremper, M.D., Ph.D.

11/11/2016
3:35pm – 3:50pm

How Do Department's Resources Get Renewed Without Undergoing a Chair Change?

Kevin K. Tremper, PhD, MD
Professor and Chair
Department of Anesthesiology
University of Michigan

How Do Department's Resources Get Renewed Without Undergoing a Chair Change?

Sometimes they don't ☺

So it Depends …

- Clinical vs Academic Agreement
- Start with a Service Agreement
- How are Service Agreements Structured
- Review Cycle: Hospital vs Dean
- Usual Issues
- Usual Metrics: SAAA Survey

1. Clinical vs Academic

- Clinical/Hospital
  95% of $$$

Academic/Dean
5% of $

Service Agreement

2. Service Agreement NOT Subsidy!

- Agree on Goal: Safe and Efficient ORs
- Know Your Costs (Faculty)
- Agree Upon Services Requested
- Try to Make the Agreement Metric Driven

2. Service Agreement NOT Subsidy!

- Agree on Goal: Safe and Efficient ORs
- Know Your Costs (Faculty)
- Agree Upon Services Requested
- Try to Make the Agreement Metric Driven

(Secret that they don't tell you: all departments.. Int. Med, Surgery, Neuro Surgery , etc. .. have service agreements)

3. How is a Service Agreement Structured

- Money Making (filled ORs)
- Money losing (Offsites, Nights, etc)
- Required Services by:
  JC, RRC, State, Institution

Coverage Hours/Sites Requested

4. Review Cycle: Hospital vs Dean

- Hospital: It Depends on #3
- Dean: "5 year Review"
- You're in the RED

Or something Changes …
Which is becoming more common

5. Usual Issues/Metrics: SAAA Survey

Metrics Derived From the Yearly SAAA Faculty and Finances Survey

5. Usual Issues/Metrics: SAAA Survey

Metrics Derived From the Yearly SAAA Faculty and Finances Survey

So Fill It Out !

Match Day 1996

1999 SAAC/AAPD Council Meeting
Simon Gelman, MD
"White Paper" on the status of our Training Programs

- Kevin Tremper, Chair
- Steven Barker
- Simon Gelman
- Calvin Johnson
- Joseph Reeves
- Albert Saubermann

Financial Status of Academic Anesthesia Training Program SAAC/AAPD Report

Kevin K. Tremper, PhD, MD

Usual Questions …..

- Do you have the Right Number of Faculty?
- Are they being Paid too Much?
- Are they Working Hard Enough?
- Too much Academic Time ?
- Are you a bad manager?

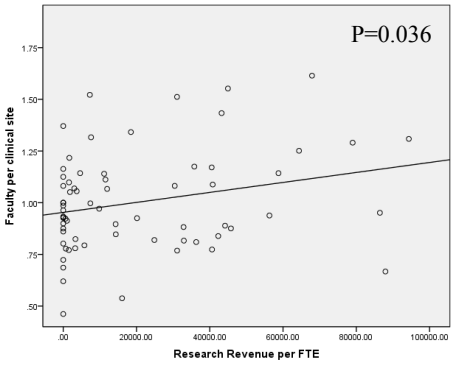
"Average" Department Clinical Coverage

- ORs = 41
- Offsites= 11
- OB = 1.3
- ICU = 1.8
- APS = 1.1
- Pain = 2.4
- Preop = $\frac{1.0}{60}$

$$\frac{\text{Faculty}}{\text{Sites}} = \frac{58.8}{60} = 0.98$$

$$\frac{\text{Res/CRNA}}{\text{Sites}} = \frac{90.0}{56.7} = 1.59$$

Faculty/Sites vs Research $/FTE



Are they being Paid too Much ? Faculty Compensation

- SAAA
- MGMA
- AAMC

Covered This Morning …..

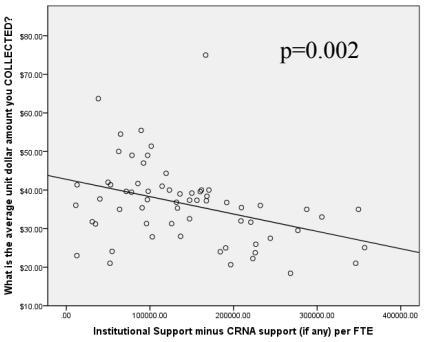
Are They Working Hard Enough? Units Billed per Faculty

2004	2005	2006	2007	2008	2009	2010	2015
11,954	11,320	12,193	12,124	11,179	10,720	11,199	13,996

Unit Value Charge ($)

2000	2001	2002	2003	2004	2010	2015	2009	2010	2015
62.60	65.90	--	74.48	75.96	99.48	122	.80	99.48	122
Collection $/unit					35.42	38	.90	35.42	38.00

Support/faculty vs $/unit



Conclusion

Good Luck !

When in Doubt Call a Friend
"Misery Loves Company"

HANDOUT

AAAC
Association of Academic Anesthesiology Chairs

How Do Department's Resources Get Renewed Without Undergoing a Chair Change?

Jane C.K. Fitch, M.D.

11/11/2016
3:50pm – 4:05pm

SAAA 2016
How Do Departments Get Resources: When & How

Jane C.K. Fitch, MD
John L Plewes Professor & Chair
OU

Disclosure

- Nothing to disclose

Objectives

- Describe the most common junctures when a chair may seek additional resources
- ID individuals to help complete thorough review on his/her department
- Using available data, measure department performance against benchmark

When

- Five year reviews
- Renegotiations
- ACGME reviews
- New leadership (Dean)
- New partnership (Hospital)

How

- External reviewer
- Internal/External reviewers
- Consultant or consulting group
- Fellow chairs

Data

- SAAA
- AAMC
- Subspecialty Society data (SOAP/SPA/SCA/SNACC/etc)
- MGMA

For Profit

- For profit
  - Formed to conduct lawful business activities
  - Primary reason to form is to earn profit for owners of the company

NonProfit, Not for Profit

- No significant difference
- IRS makes one distinction
  - Nonprofit (NPO)
    - Organization established for purposes other than profit-making
    - Formed for the common good of the public
    - Religious, charitable or educational purposes
  - Not for profit
    - Refers to an activity

General Comparisons

	For Profit	Nonprofit
Profit use	Distributed to owners	Recirculated back to org, pay salaries, admin needs
Tax exemption	No State or Federal tax exemptions, pay property taxes, donations are not tax deductible	State & Federal tax, sales tax, property tax exemptions, donations are tax deductible
Asset distribution	Assets belong to owners	Assets belong to org
Raising capital	Offer investors % ownership	Solicit donations, govt & pvt grants
Attract employees	Bonuses & high salaries	Difficulty to attract & retain

Hospital Comparisons

	For Profit (FP)	Nonprofit (NP)
Numbers	1,068, traditionally in the South	2,894, often affiliated with religious denominations
Profits	Distribute to investors, shareholders (pvt or public)	Invest all profits in org
Tax exemption	Pay income & property taxes	Exemption from state & federal income & property taxes, approx. $12 billion
Raise capital	Investors	
Reporting		Community benefits (uncompensated care, M'caid, etc)

Hospital Comparisons (con't)

	For Profit (FP)	Nonprofit (NP)
Culture	Business driven, dollar, more advert & mkt	Service driven, patient
Patients	Lower income populations	More uncompensated care, less poverty, higher incomes, fewer uninsured
Employed physicians	Generally no, due to anti-kickback laws	Yes, medical foundations make that possible
Response to financial incentives	Quick to drop services, close or restructure	Slower response

HANDOUT

AAAC
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Building a Perioperative Quality and Safety Program: What are the Best Sources and Uses of Available Data? Is Anesthesiology Still Recognized as Leaders in Perioperative Quality? – Finding and Assembling the Data

Avery Tung, M.D., FCCM

11/11/2016
4:20pm – 4:35pm

Building a perioperative quality and safety program: what are the best sources and uses of available data? Is anesthesiology still recognized as leaders in perioperative quality?

Part 1: Finding and assembling the data

Avery Tung, M.D. FCCM

November 11, 2016

N.B. This handout is referenced in "PMID" format and functionalized so that clicking on the PMID will bring up the relevant Pubmed entry. Typing the number into the Pubmed search engine will also bring the article.

1. Introduction

Anesthesiologists face three major challenges in building a quality program. The first is the increasingly subtle nature of explicitly anesthesia-related adverse events in the operating room. Modern anesthesia delivery systems, monitors, airway management and vascular access tools, anesthetic agents, simulation, and awareness of "high risk" situations has reduced the number of "clean" or "unforced" events to near zero. The result is that the adverse events or near misses that do occur are complex, and have interlocking root causes that require individual event analysis to identify risk reduction strategies. Moreover, such cases may not be identified from automated search strategies since an anesthesia chart with normal vital signs may mask a desperate struggle in another domain. Finally, because anesthesiologists generally practice alone, an event with a modifiable root cause encountered by one anesthesiologist may not automatically "trickle down" to other anesthesiologists unless explicitly shared.

The second challenge is the difficulty in identifying postoperative outcomes after the patient leaves the PACU. Although intraoperative deaths are rare, postoperative deaths still occur from well-understood causes such as MI, PE, and aspiration. In addition, many intraoperative anesthesia-related events have consequences that extend well into the postoperative period and postoperative discoveries such as corneal abrasions, infiltrated IVs, and peripheral neurologic injuries from regional blocks may have intraoperative antecedents related to anesthesia care.

Thirdly, difficulty in identifying postoperative complications is further complicated by the relative lack of knowledge regarding how intraoperative events map to postoperative complications. Once explicit abnormalities are excluded, knowledge regarding the effect of anesthesia management on the incidence of relevant postoperative outcomes such as renal injury, SSI, ARDS, or MI is poor. As an example, although intraoperative mean blood pressures correlate with the incidence of postoperative renal injury (PMID 23835589 and 26181335), evidence that treating those blood pressures reduces the risk is less robust. A study of high vs low mean blood pressures in critically ill patients, for example, (PMID 24635770) found no effect on renal injury. Similarly, although high glucose levels in the OR clearly correlate with increased postoperative complications, evidence that treating those levels reduces the risk of adverse postoperative events is less clear (PMID 23235393) and the glucose "target" for ideal outcome in diabetics may differ from that in nondiabetics (PMID 24009267). How anesthesia drugs might themselves affect perioperative outcomes is also evolving. Relationships between narcotic use and postoperative infection (PMID 21989372) and between inhaled anesthetics and postoperative lung injury (PMID 19417610) are examples of potential routes of influence.

2. Event reporting: the backbone of an Anesthesia quality program

A robust Anesthesia quality program thus begins with a culture that can identify such cases and share them with other providers. Because self-report is notorious for not capturing all cases (PMID 8556111, 21471476), and many adverse events are invisible unless reported, providers should feel that they will not be punished or shamed for reporting, but instead that they are contributing to the department by identifying a risky environment or dangerous latent error. In Illinois, legal protection against medicolegal discovery for QI purposes offers another reason to report: to time-stamp the beginning of CQI investigation. Efforts to make reporting better should also extend to reporting mechanisms. Web-based systems are common and easy to set up, many EMR systems include a reporting mechanism including the ASA-run AIRS (https://www.aqihq.org/airs/airsIntro.aspx) system.

Once identified, events with potential to learn from them should be disseminated to the rest of the department. Such potential can include equipment failures or modes, wrinkles in pharmacy practice, and new clinical or research protocols. At the University of Chicago we use CQI conferences to disseminate these "quick hits" so participants know when to expect the information download.

3. Postoperative complications: Identifying adverse events outside the OR suite

Detecting postoperative events once patients have left the PACU is considerably more difficult. Many EMRs treat the OR as a separate encounter from the rest of the hospital, so when the patient leaves the PACU they actually transition to another encounter. As few systems easily map postoperative events to intraoperative events, the existing infrastructure in many hospitals can be poor. This section will contain suggestions and caveats with respect to these longer term outcomes.

3a. *Leverage the hospital NSQIP and STS reporting system*. Unlike STS, which relies on self-reporting, NSQIP installs an analyst into every hospital to perform chart analysis and independently verify whether a case of postoperative respiratory failure really happened. NSQIP tracks several relevant surgical outcomes including respiratory failure, surgical site infection, renal failure, and cardiovascular complications. Ideally, the Anesthesia quality apparatus and NSQIP should work closely together so trends in outcomes can also be shared. NSQIP produces a "semi-annual report" which compares your hospital to others and identifies outliers.

3b. *Use your billing data.* Although billing data does not track outcomes, it can track how many procedures are done and by which providers. Estimates of central line insertion rates, conversion rates from regional to general, and ASA class are all available in most billing systems. Such data are relevant to safety…for example identifying increasing numbers of blocks or central lines being done in unanticipated locations…or declining numbers of procedures and a possible need for yearly certification training.

3c. *Seek out the databases of other entities in the hospital.* It's highly likely that many of the services that might be activated by a postoperative adverse event are maintaining their own databases. Inpatient dialysis, Cardiac Cath lab/consult services, and the Stroke center are all examples of specialty services keeping their own data. Merging their databases with your billing data may help identify cases where renal, cardiac, or neurological injury have occurred. As an example, although routine, postoperative troponin measurement is not common and most postoperative myocardial injury is silent (PMID 27433900). But cardiology consultation may be universal for postoperative troponin bumps, and if they keep a list of patients they have seen, it could easily be cross-referenced with billing data to identify postoperative cardiology consultations. Similarly, if a postoperative patient requires new dialysis, those patients can be identified using a database match. In our hospital, we track postop

neurologic complications of peripheral nerve block in part by a liason with the hospital physical therapy department, who are almost always called to see patients with foot drop, numbness, or focal muscle weakness.

This approach illustrates an important principle relevant to Anesthesia quality. Because identifying many relevant postoperative outcomes is difficult, to expect any tracking method to identify all cases with 100% sensitivity and specificity is too much effort. Additionally, since "eyes on the chart" are needed to properly identify fixable issues, some degree of manual chart review will be needed regardless of what tracking system is deployed. As an example, the EPIC registry report to identify reintubations can be confused by patients who were intubated (and extubated) earlier in the admission, but now present to the OR. If the old endotracheal tube was not removed from the list of devices attached to the patient, EPIC will interpret it as a reintubation. But if the error rate is reasonable (<100 cases), then the remainder "edge" cases can often be reviewed by hand. Such review may help fine tune detection algorithms.

4. Conclusion

As technology makes intraoperative care easier and safer, the task of detecting anesthesia adverse events becomes more difficult. Instead, intraoperative adverse events have become more complex to analyze, and often may not be detectable from automated analysis. Robust event reporting thus has become more important in detecting, and analyzing intraoperative events that may occur. Doing so requires focused adherence to "just culture" principles and viewing events as opportunities to improve our understanding of risk rather than something that needs to be fixed.

An equally important challenge is to identify adverse events that occur postoperatively. Because transfer from the floor to the PACU or ICU is often processed as a move to a new encounter, mapping postoperative complications to the antecedent anesthetic can be difficult. Here, imagination can help. Billing data creates an extremely accurate record of anesthetics and ancillary procedures such as central lines. Other sources of data, including NSQIP and STS databases, records kept by services likely to become involved with an adverse postoperative event such as renal failure or a postoperative MI, and pharmacy databases to identify instances of drug use referable to a postoperative event (erythromycin eyedrops for corneal abrasions) are also potential ways to track postoperative events.

Few evidence based, meaningful quality metrics exist for anesthesiologists. To fulfill the goal of being a perioperative physician and identify best practice, anesthesiologists will need to be able to track the consequences of intraoperative decisions in to the postoperative period. Until tracking becomes routine and embedded into future EMRs, obtaining data from whatever sources are available will be necessary.

HANDOUT

AAAC
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Building a Perioperative Quality and Safety Program: What are the Best Sources and Uses of Available Data? Is Anesthesiology Still Recognized as Leaders in Perioperative Quality? – Now What? Translating the Data Into Action

May C. Pian-Smith, M.D., M.S.

11/11/2016
4:35pm – 4:50pm

BUILDING A PERIOPERATIVE QUALITY & SAFETY PROGRAM:

NOW WHAT? TRANSLATING THE DATA INTO ACTION

MAY PIAN-SMITH, MD, MS

The speaker has no disclosures to make

SUMMARY

Anesthesiologists have historically played a leading role in patient safety. Translating safety data into sustained and meaningful quality improvement and behavior change requires a culture of safety. In academic departments, leaders can inspire change with a "learning orientation" where adverse events and near-misses are seen as opportunities for shared learning and improvement rather than triggers for blame. As with other academic aspects of our work, adoption of a learning orientation in the context of Quality and Safety (Q&S) requires understanding of underlying mechanisms, multi-modal teaching and training, support of practitioner-learners, evidence that efforts truly result in improvement, and consistent messaging and modeling about what is valued from leadership. Creation of and commitment to a shared mission and vision allow for sustained and aligned efforts when the challenge of culture change feels insurmountable. This presentation will highlight leadership themes/strategies for culture change in healthcare and also specific examples of initiatives that can be employed by department chairs to advance anesthesiologists' Q&S visibility and value on the frontlines and in the hospital C-suite.

Establishing a Culture of Safety through Learning and Transparency

While the QA report or Safety Report is the "what", the root cause analysis (RCA) is the "why". A mandated tool of the Joint Commission for analysis of sentinel events since 1997, RCAs have been shown to be associated with the development of strong actions to improve safety and lower rates of adverse events (1)

Components of a complete RCA include: (1) What happened? (Often what happened is not the same as originally reported; time is needed to sort this out via development of a detailed timeline with sequence of events); (2) What normally happens? (The events need to be framed within current requirements/ standards of care/ policies and procedures); (3) Why did it happen? (Established tools and techniques are used to identify causal and contributing factors). Methods of RCAs have matured recently so that contributing factors can be more directly linked to actionable process improvements. In 2016 the National Patient Safety Foundation (NPSF) published a new strategy for RCAs, termed RCA2, ("RCA-

squared"), where the second A stands for "Action" (2). Three new areas of focus are (1) being prompt, (2) identifying true contributing factors, and (3) making action plans truly effective.

Algorithms for RCAs focus on systems effects, human factors (interaction of humans with their immediate environment) and human decision-making. Using "just culture" algorithms to decide if an individual's actions reflect simple slips, at-risk behavior or reckless behavior both requires and contributes to a culture of safety- the important balance of support and accountability is reinforced as workers are consoled, coached and (thankfully rarely) disciplined as appropriate (3, 4, 5)

An important key to success is having a framework and structure to support Q&S activities (6, 7). In our own department, "RCA2" has been accomplished by deliberately linking the work of a Quality Assurance (QA) patient safety committee with the work of a Quailty and Safety Improvement Committee (QSIC). Each of these committees has approximately 25 members from all subspecialties and role groups, including faculty members, residents, CRNAs, critical care and PACU nurses, and technicians. Depending on the problem under discussion, pharmacists, engineers and interdisciplinary specialists are included in meetings as well. Because Q&S is a core competency of all anesthesiology trainees, we have also created and supported a "Resident Only" QA committee, open to all residents, under the peer-protection umbrella of the QA committee. Our trainees learn and practice techniques of RCAs, present at M&M conferences, design and implement Quality Improvement (QI) projects and are reporting their results. Our department also has two resident representatives on a hospital-wide resident Q&S committee (with a 2-year term and curriculum).

Efficacy of the Q&S team is facilitated with departmental support. In addition to physician leaders, non-physicians serve as administrative leaders and analysts. Our departmental core Q&S team is comprised of individuals with advanced training, including PhD, MBA, MPH, MS in patient safety, fellowship training in patient safety, RN, and certification in patient safety. The physician leaders of the effort are afforded non-clinical time to do this work (in part supported by an endowed scholarship in Q&S), and are held accountable to accomplish this work in a timely and effective manner. Q&S updates are provided weekly at a meeting of the chair, vice-chairs and division chiefs.

Publication of a monthly "Quality Time Newsletter" disseminates lessons learned and reinforces the idea that the reporting of events, analysis and process improvement are all a part of a commitment to institutional learning. Inclusion of QA statistics and details about reportable events enforces a culture of transparency and normalizes sharing of information. These electronic newsletters are also shared with the hospital vice-president for Q&S who serves as the hospital Chief Q&S Officer. In part because of these deliberate efforts to highlight departmental Q&S work at the highest hospital levels, our anesthesiology leader of Q&S was made a member of the hospital board of directors' committee on Q&S and serves as a faculty member in the hospital network's Center for Excellence in Q&S.

Just as interdisciplinary collaboration is needed for optimal clinical care, interdisciplinary analyses of events and collaboration with process-improvement projects enhance learning and foster a team-approach to problem-solving. Shared experiential learning builds bridges across specialties; we have accomplished this through interdisciplinary M&M discussions, joint attendance (with surgeons and/or perioperative nurses) at grand rounds given by national and international experts, and interdisciplinary simulation-based OR team-training sessions.

Nurturing a Culture of Safety through Support and Presence

Efforts directed at improving patient safety and quality of care need to include care of the "second victim", the care-provider who is involved in an adverse patient event. Stress related to adverse events takes a toll on care providers, and can translate into long-term burnout, and even threaten the safety of subsequent patients cared for by affected clinicians. Suggested methods for providing peer support have been made (8, 9), and we have developed and implemented a peer-support program in our department. Faculty, residents, nurses and technicians who were nominated for this role by their peers, undergo a 6-hour training program that incorporates didactics and role-play. They are deployed to support peers after serious adverse events and the details of their interactions are non-discoverable under our QA umbrella.

Studies have suggested that burnout threatens learning, decision-making during times of uncertainty, and innovation (10). Realizing that these are core elements of a strong safety culture, our Q&S team identified "addressing burnout" as a primary tactic in carrying out our mission and vision. A Wellness Committee was established, with membership open to all department members. Monthly committee meetings have resulted in the organization of departmental activities, including group exercise sessions, meditation classes, cooking classes and winery outings. Publication of a monthly wellness newsletter provides links to primary articles on nutrition, health and fitness.

Leadership walk-rounds have been shown to enhance the visibility of leaders with frontline workers and the two-way engagement has been shown to result in improved quality and safety (11, 12). In our department, leaders of the Q&S team make regular rounds in clinical areas to hear from colleagues about what's working well and what needs to be improved. Hearing responses to "what keeps you up at night?" and "how will the next patient be harmed?" helps prioritize efforts and sends a message that the departmental leadership is receptive and responsive to clinician concerns.

Valuing a Culture of Safety through Celebration

Sharing "stories" is a powerful tool to engage individuals in Q&S and to illustrate successes. We aim to solicit success stories with each and every anesthetic. At the end of each anesthetic, our electronic medical record links to a "QA page" (a forced function to close the encounter) which not only asks about adverse events and near misses, but also has a free text response box for "Getting it Right" (e.g., "a nurse knew about the patient's allergy to antibiotics even though it was not on the electronic medical record and she spoke up about it at the time-out") – these stories are circulated to the department and the hospital leadership in the monthly department quality newsletter.

Q&S awards are tangible ways to show that efforts are valued by the leadership of the department. At our institution the "Jeffrey Cooper Award for Patient Safety" honors the dedication and contributions of Dr. Cooper to patient safety and recognizes the exemplary contributions of a member of the department to the provision of safe patient care, as well as to fostering a culture of safety. Our department chair also recently presented a one-time "Chief's Award" to our QA senior coordinator for her exemplary contributions to our department; in the awardee's honor, Dr Lucian Leape came to give a Grand rounds about safety culture and it was a joint presentation for the anesthesia department and the perioperative nursing department.

Increasingly, anesthesiologists can be recognized at the hospital and national level for Q&S efforts and successes. At our institution, an anesthesiologist received the inaugural "Cy Hopkins Patient Safety Leadership Award" and several clinicians have been recognized as MGH "Patient Safety Stars". On a national level, our residents sought and received the inaugural Anesthesia Patient Safety Foundation (APSF) Resident Quality Improvement Recognition Award (13).

Q&S success does not happen by accident; it happens with deliberate leadership

Department Chairs play an important role in establishing the culture in which Q&S work can flourish. Supporting individuals' efforts with time, training, mentorship and connections is as helpful as it is with other aspects of our academic work. Having the courage to maneuver towards more transparency is dependent on leaders who reward learning from adverse events and near-misses, who are fair and consistent in their responses, and who support process improvements that result in the wellbeing of patients and the work force.

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