A satellite image of a large storm system, likely a hurricane or tropical cyclone, centered over the eastern United States. The storm's eye is clearly visible, surrounded by dense, swirling cloud bands. The text is overlaid in a large, bold, yellow font with a black outline.

Perfect Storm Follow-Up Survey (2000 – 2012)

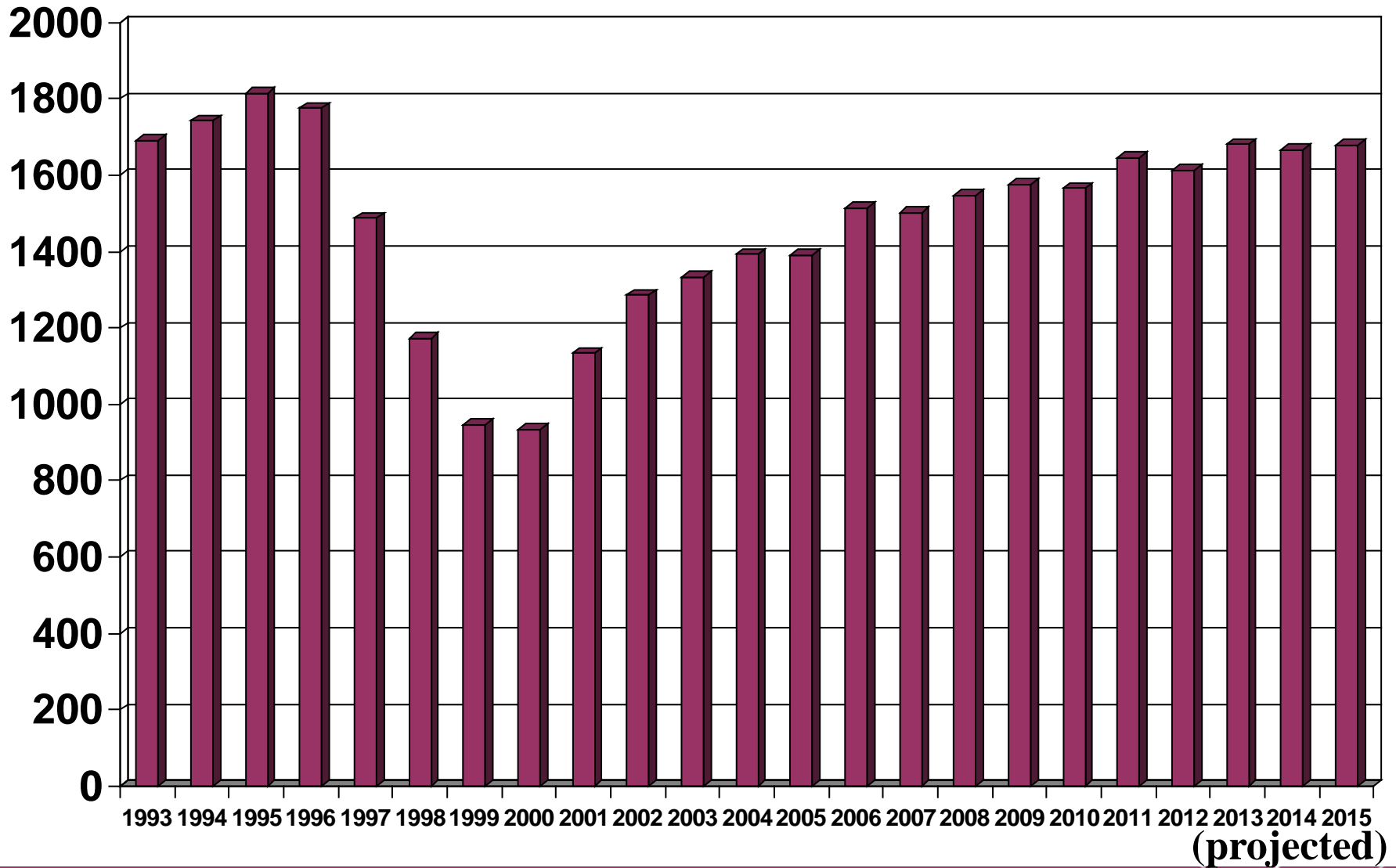
Kevin K. Tremper, PhD, MD
Professor and Chair
Department of Anesthesiology
University of Michigan



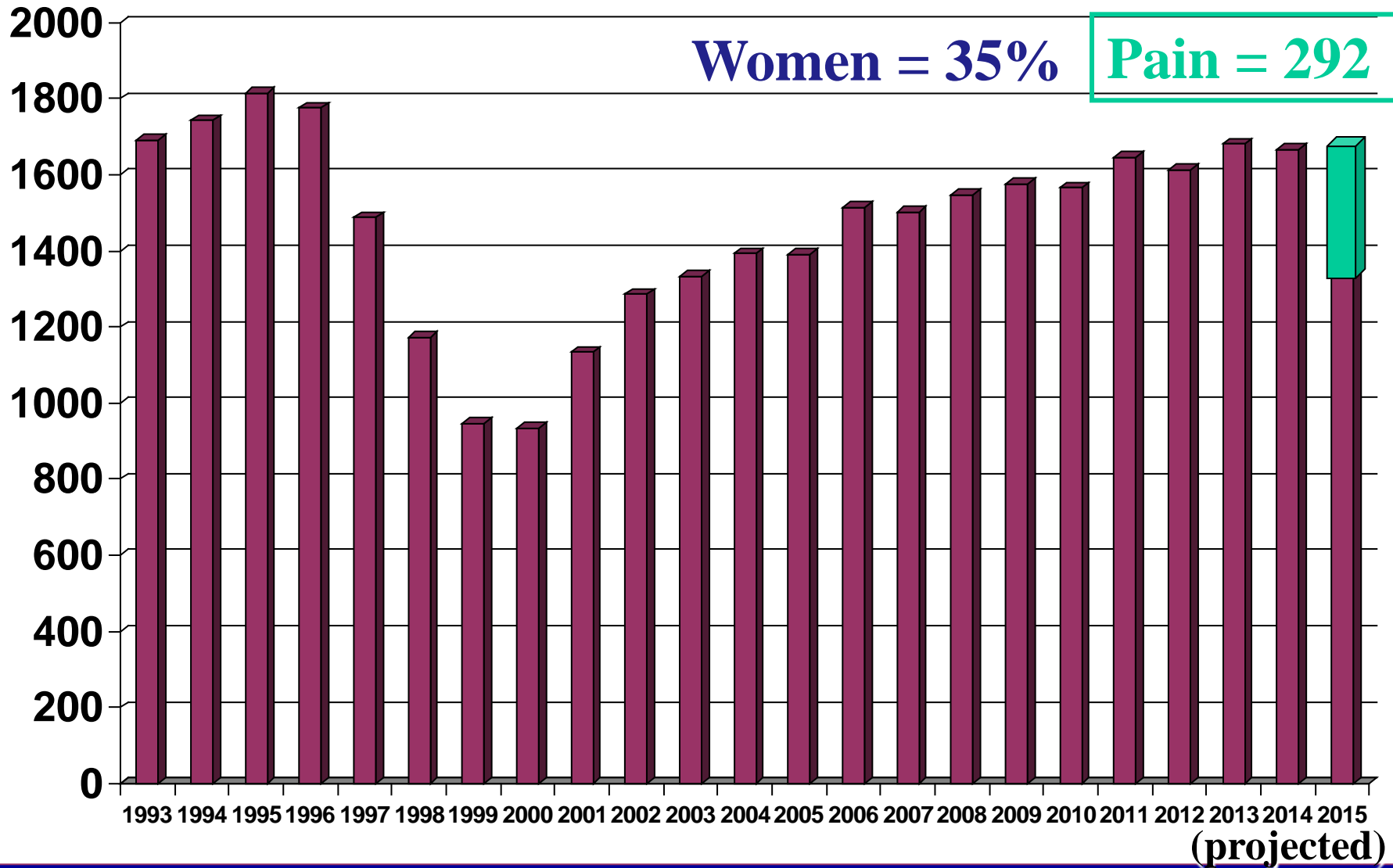
Match Day 1996



Resident Graduates 1993 through 2015



Resident Graduates 1993 through 2015



Survey Response Rate

| 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 58% | 72% | 64% | 65% | 73% | 60% | 61% | 60% | 59% | 60% | 62% | 62% | 54% |

“Average” Department (2011/2012)

| | |
|------------------|----------------------------|
| Faculty | 60.3 FTE |
| Residents | 15/Class |
| Interns | 80% have 11 interns |
| CRNAs | 100% have 46 CRNAs |

“Average” Department Clinical Coverage

- ORs = 43
 - Offsites = 11
 - OB = 1.4
 - ICU = 1.7
 - APS = 1.2
 - Pain = 2.4
 - Preop = 1.0
- $\frac{\text{Faculty}}{\text{Sites}} = \frac{60.3}{61.7} = 0.98$
- $\frac{\text{Res/CRNA}}{\text{Sites}} = \frac{97.7}{61.7} = 1.58$
- 61.7

Average Job Openings for Faculty/Department

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2011 | 2012 | 2011 | 2012 |
|--------------------------------------|------|-------|-------|------|------|------|-------------|-------------|-------------|-------------|
| # Openings/ Department | 3.8 | 3.9 | 3.4 | 3.8 | 2.7 | 2.8 | 3.6 | 3.2 | 3.6 | 3.2 |
| % Faculty/ Department | 9.7% | 8.7 % | 6.8 % | 7.3% | 5.9% | 5.5% | 6.3% | 5.3% | 6.3% | 5.3% |
| Estimated Number of Faculty Openings | ≈400 | ≈400 | ≈400 | ≈400 | ≈350 | ≈350 | ≈421 | ≈380 | ≈421 | ≈380 |

Average Job Openings for Faculty/Department

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2011 | 2012 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------------------------------|------|------|------|------|------|-------------|-------------|------|------|------|-------------|-------------|
| # Openings/ Department | 3.8 | 3.9 | 3.4 | 3.8 | 2.7 | 3.6 | 3.2 | 3.7 | 3.8 | 3.4 | 3.6 | 3.2 |
| % Faculty/ Department | 9.7% | 8.7% | 6.8% | 7.3% | 5.9% | 6.3% | 5.3% | 7% | 7% | 6% | 6.3% | 5.3% |
| Estimated Number of Faculty Openings | ≈400 | ≈400 | ≈400 | ≈400 | ≈350 | ≈421 | ≈380 | ≈500 | ≈350 | ≈345 | ≈421 | ≈380 |

Faculty Openings by Subspecialty

Average Dept. = 60.3 FTE

Average Dept with openings has 3.9 open positions

| | Mean | % of Openings |
|-------------------|------------|---------------|
| Generalist | 1.0 | 25% |
| Cardiac | 0.7 | 18% |
| Peds | 0.6 | 15% |
| ICU | 0.6 | 15% |
| Pain | 0.3 | 8% |
| OB | 0.3 | 8% |
| Neuro | 0.2 | 5% |
| Regional | 0.1 | 3% |
| Ambulatory | 0.1 | 3% |

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| Regional | 0.1 | 3% |
| Ambulatory | 0.1 | 3% |

SAAA Salary Survey

83 % have 3.9 openings

Would predict about 334 openings

So about 350 openings

CRNAs

| | | | | 2011 | 2012 | | | |
|---------------------|------|------|------|------------|------------|------|------------|------------|
| | 2000 | 2001 | 2002 | | | 2010 | 2011 | 2012 |
| Depts. % | 66 | 75 | 67 | 63 | 55 | 65 | 63 | 55 |
| # Needed | 4.0 | 4.4 | 3.6 | 3.7 | 4.7 | 3.4 | 3.7 | 4.7 |

Faculty Academic Time

| 2000 | 2003 | 2004 | 2005 | 2011 | 2012 | 2009 | 2010 | 2011 | 2012 |
|------|-------|------|------|------|------|------|------|------|------|
| 31% | 13.4% | 16% | 17% | 16% | 15% | 15% | 15% | 16% | 15% |

Not an accurate

Chairs Clinical Time

Mean 32%

Median 25%

Revenue: Sources and Total

| | 2004 | 2005 | 2006 | 2007 | 2011 | 2012 |
|-------------------|---------------------------------------|---|---|--|--|--|
| Clinical Revenue | - | \$16,644,922 \$373,150/FTE (n=64) | \$20,408,158 \$402,046/FTE (n=70) | \$19,044,688 \$414,015/FTE (n= 71) | \$25,684,861 \$463,055/FTE (n=68) | \$27,188,105 \$457,596/FTE (n=58) |
| Research Revenue | - | \$1,408,000 \$23,832/FTE (n=64) | \$1,869,562 \$35,534/FTE (n=58) | \$1,802,606 \$39,187/FTE (n= 71) | \$1,369,842 \$20,226/FTE (n=68) | \$1,366,898 \$19,683/FTE (n=58) |
| Institut. Support | \$3,788,000 \$98,000/FTE (n=85) | \$4,900,000 \$116,000/FTE (n=60) | \$5,455,400 \$120,200/FTE (n=71) | \$5,196,262 \$112,962/FTE (n= 70) | \$8,699,762 \$174,096/FTE (n=68) | \$9,678,404 \$176,661/FTE (n=58) |
| Total Revenue | - | \$21,998,396 \$489,297/FTE (n=65) | \$27,631,460 \$547,879/FTE (n=68) | \$25,996,792 \$566,183/FTE (n=70) | \$36,387,210 \$666,025/FTE (n=68) | \$38,815,032 \$659,759/FTE (n=58) |
| Total Expense | - | \$21,703,829 \$486,139/FTE (n=62) | \$27,319,695 \$534,821/FTE (n=66) | \$25,815,321 \$554,660/FTE (n=69) | \$35,922,756 \$652,433/FTE (n=68) | \$38,558,978 \$657,262/FTE (n=88) |

Margin Analysis FY 2000 - 2011

| Dept. Margin | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| (+) Margin/ FTE | 53% 50,500 | 53% 15,200 | 65% 28,400 | 54% 17,800 | 55% 27,400 | 50% 37,100 |
| (-) Margin/ FTE | 44% 23,000 | | | | | 60% 30,000 |

| 2011 | | 2012 | |
|------|--------|------|--------|
| 54% | 43,075 | 48% | 31,740 |
| 35% | 36,476 | 30% | 40,205 |

| Dept. Margin | 2006 | | | | | | 2012 |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| (+) Margin/ FTE | 68% 29,400 | | | | | | 48% 31,740 |
| (-) Margin/ FTE | 23% 39,900 | 26% 28,778 | 29% 59,369 | 24% 26,017 | 25% 36,166 | 35% 36,476 | 30% 40,205 |

Total Department Support (Hospital, Med School and Other)

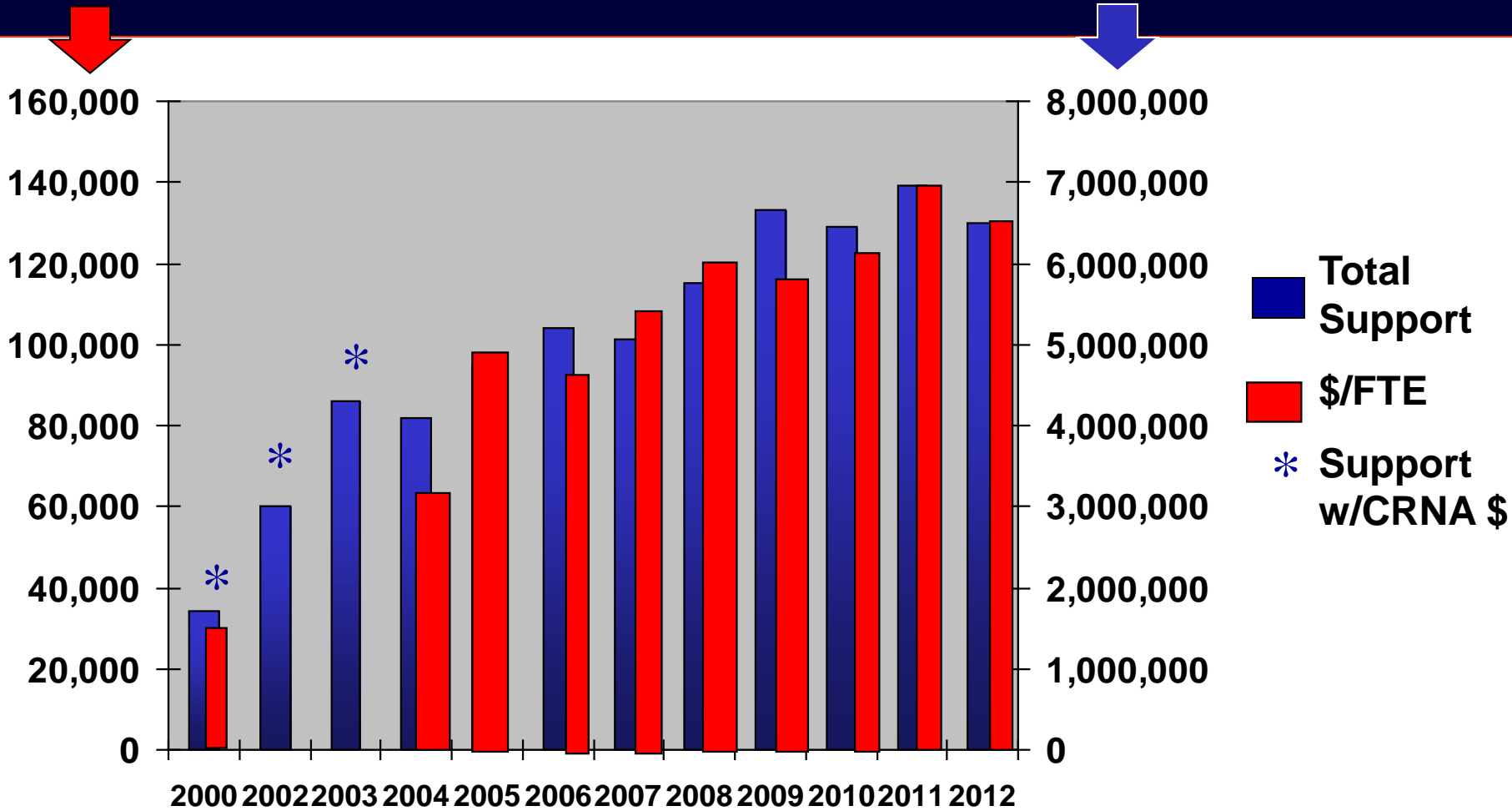
| Year | 2000 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------------|-----------|-------------|------|-------------|------|-----------|
| Total Support | 1,235,000 | 2011 | | 2012 | | 5,455,400 |
| \$/FTE | 34,000 | | | | | 120,100 |

| Year | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---------------|-----------|------------------|------------------|---------|-----------|-----------|
| Total Support | 5,196,261 | 8,699,762 | 9,678,404 | | 9,678,404 | 9,678,404 |
| \$/FTE | 112,962 | 146,465 | 160,381 | 166,759 | 174,096 | 176,661 |

Total Department Support Without CRNA Support

| | Total Support | Total Support (minus CRNA | Per FTE (minus CRNA |
|-------------|--------------------|------------------------------|-------------------------|
| | 2010 | \$6,579,848 | \$128,619 |
| | 2011 | \$7,008,978 | \$140,435 |
| 2 | 2012 | \$6,797,397 | <u>\$129,740</u> |
| 2011 | \$8,699,762 | \$7,008,978 | \$140,435 |
| 2012 | \$9,678,404 | \$6,797,397 | \$129,740 |

Total Department Support (without CRNA Support)



Institutional Support 2012

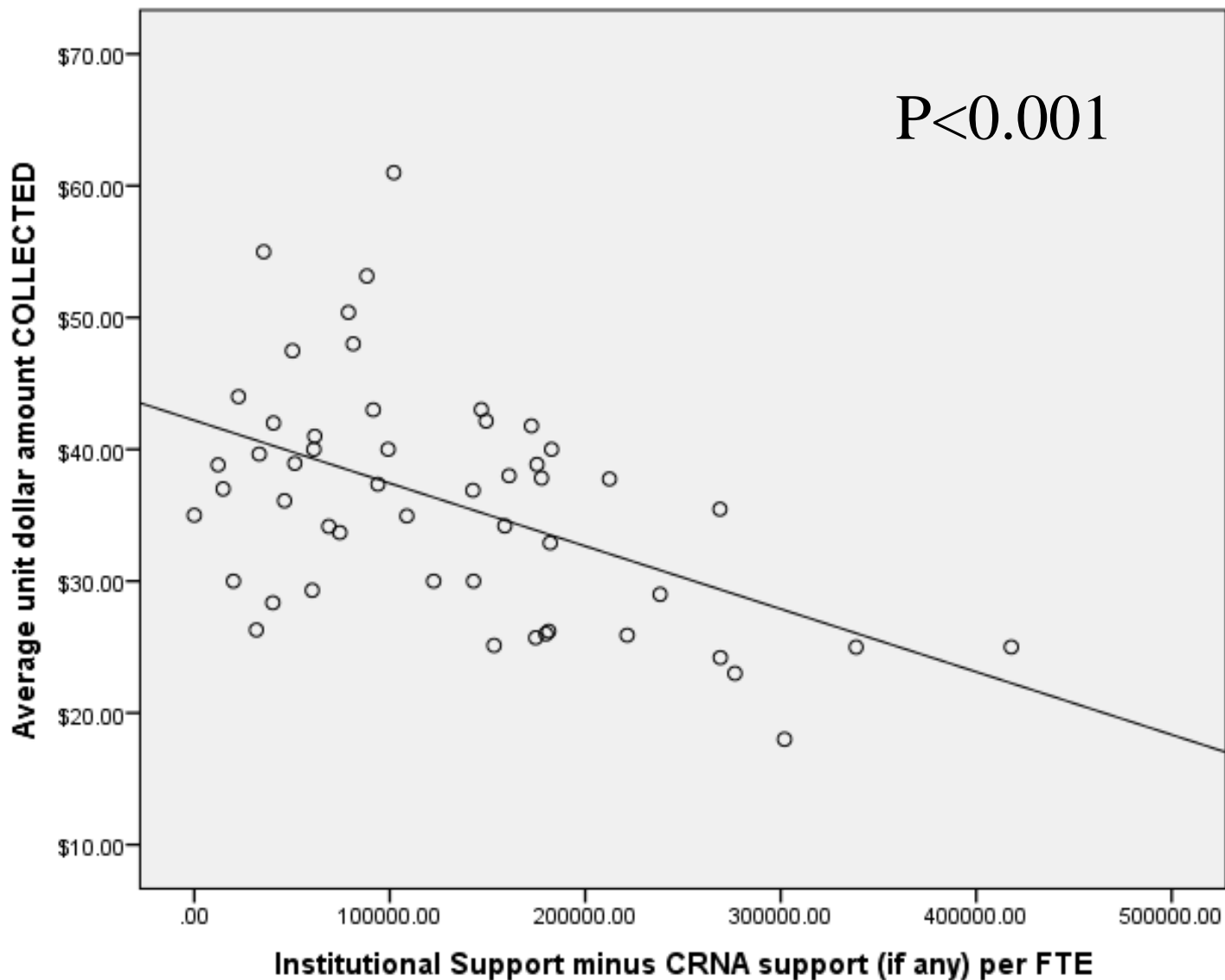
Total support / FTE = \$176,661

(Support – CRNA)/FTE = \$129,740

Support/site = \$171,203

**Median Margin = \$ 170,834 or
\$ 3,314/FTE**

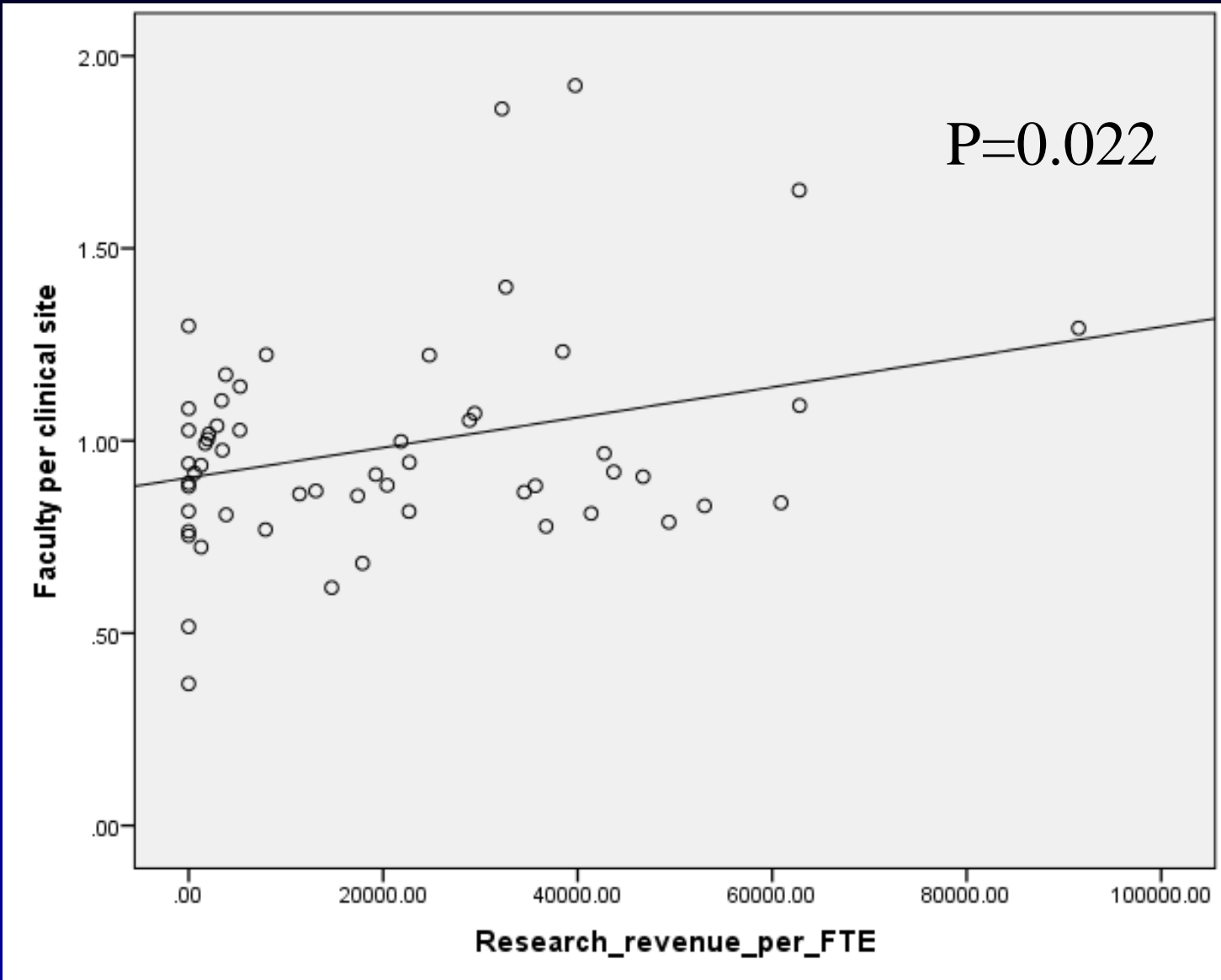
Support/faculty vs \$/unit



Clinical Sites and Faculty Assigned

| Clinical Anesthetizing | MEAN | MAX | MIN | SD |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Faculty/ Clinical Sites | 1.0 | | 1.9 | 0.4 |
| Research Revenue/ Faculty | \$19,683 | | \$91,509 | \$0 |
| TOTAL | 61.7 | | | |
| Faculty/Clinical Sites | 1.0 | 1.9 | 0.4 | 0.3 |
| Research Revenue/Faculty | \$19,683 | \$91,509 | \$0 | \$21,441 |

Faculty/Sites vs Research \$/FTE



SAAA Salary Survey

National Average (50th %)

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2011 | 2012 | 2010 | 2011 | 2012 |
|------|---------|---------|---------|---------|---------|----------------|----------------|---------|---------|---------|
| INST | 144,250 | 166,000 | 201,528 | 209,794 | 216,122 | 269,000 | 288,500 | 281,500 | 269,000 | 288,500 |
| ASST | 183,000 | 195,859 | 209,000 | 226,004 | 242,821 | 306,145 | 310,000 | 305,250 | 306,145 | 310,000 |
| ASSC | 210,000 | 225,188 | 231,496 | 247,000 | 264,158 | 334,289 | 356,486 | 337,000 | 334,289 | 356,486 |
| PROF | 239,182 | 247,250 | 242,156 | 258,638 | 278,712 | 348,550 | 378,000 | 350,305 | 348,550 | 378,000 |

SAAA Salary ↑ 4 out of 4

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2011 | 2012 | 2010 | 2011 | 2012 |
|-------------|---------|---------|---------|---------|---------|----------------|----------------|---------|---------|---------|
| INST | 144,250 | 166,000 | 201,528 | 209,794 | 216,120 | 269,000 | 288,500 | 281,500 | 269,000 | 288,500 |
| ASST | 183,000 | 195,859 | 209,000 | 226,004 | 242,820 | 306,145 | 310,000 | 305,250 | 306,145 | 310,000 |
| ASSC | 210,000 | 225,188 | 231,496 | 247,000 | 264,150 | 334,289 | 356,486 | 337,000 | 334,289 | 356,486 |
| PROF | 239,182 | 247,250 | 242,156 | 258,638 | 278,710 | 348,550 | 378,000 | 350,305 | 348,550 | 378,000 |

Subspecialty Compensation (Only 45% pay more)

| | Mean | Min. | Max. |
|----------------|-----------------|-------------|-----------------|
| Cardiac | \$14,722 | \$ 0 | \$75,000 |
| ICU | \$ 8,462 | \$ 0 | \$50,000 |
| Peds | \$13,872 | \$ 0 | \$50,000 |
| Pain | \$ 8,750 | \$ 0 | \$70,000 |
| OB | \$ 2,130 | \$ 0 | \$20,000 |
| Neuro | \$ 1,852 | \$ 0 | \$20,000 |
| Other | \$ 6,957 | \$ 0 | \$94,090 |

Unit Value Charge (\$)

| 2000 | 2001 | 2002 | 2003 | | 2011 | 2012 | 2009 | 2010 | 2011 | 2012 |
|-----------------|-------|------|-------|--|---------------|---------------|-------|-------|--------|--------|
| 62.60 | 65.90 | -- | 74.48 | | | | 97.80 | 99.48 | 105.76 | 106.89 |
| Collection \$/u | | | | | 105.76 | 106.89 | | | | |
| | | | | | | | 34.90 | 35.42 | 35.99 | 35.63 |
| | | | | | 35.99 | 35.63 | | | | |

Units Billed per Faculty

| 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 11,954 | 11,320 | 12,193 | 12,124 | 11,179 | 10,720 | 11,199 | 10,951 | 11,283 |

Medicaid Reimbursement/Unit

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|
| Max | \$30.00 | \$32.00 | \$37.00 | \$31.50 | \$38.00 | \$38.00 | \$40.00 | \$30.00 |
| Min | \$ 5.00 | \$ 8.00 | \$ 8.00 | \$ 8.00 | \$6.00 | \$8.00 | \$8.00 | \$8.00 |
| Mean | \$14.98 | \$16.67 | \$16.07 | \$16.21 | \$17.17 | \$17.26 | \$16.17 | \$16.20 |

Late Pay

| | |
|-----------------|----------------------------------|
| No | 25% |
| Yes | 75% |
| <i>If yes,</i> | |
| How much \$/hr. | \$148.00/hr \pm \$32.00 |
| How much Time | 4:57 pm \pm 41 min. |

Conclusions:

1. Faculty openings the same/down?
2. Department finances are the same.
3. Departments' institutional support is **decreasing**.
4. Support is due to poor collection rate ... Not academic time or site/faculty utilization.

Conclusions:

6. More faculty/site associated with Increased Research \$\$
7. Overtime pay average \$148/hr starting at 4:57 pm.





Issues with Senior Faculty

- **Call**
- **Clinical Work**
- **Competency**

National Survey Data

Aging of Faculty

9% of faculty are between 60-65 y/o

5% of faculty are > 65 y/o

Average Dept has 50 faculty

Do You Have a Mandatory Retirement Age?

Do You Have a Mandatory Retirement Age?

No 100%

Is In-house Call Required?

Is In-house Call Required?

No = 60%

Yes = 40%

Is In-house Call Required?

No = 60%

Yes = 40%

Can it be sold ?

Is In-house Call Required?

No = 60%

Yes = 40%

Can it be sold ?

No = 66%

Yes = 33%

Weekday = \$1,075

Weekend = \$2,125

**Is there an Age where Faculty
Stop Taking Backup Call?**

Is there an Age where Faculty Stop Taking Backup Call?

No = 67%

Yes = 33%

Age = 59 y/o

Do You Allow Part-time Faculty?

Do You Allow Part-time Faculty?

No = 30%

Yes = 70%

How Do You Assess Clinical Competency of Senior Faculty?

How Do You Assess Clinical Competency of Senior Faculty?

Resident Evals **Yes = 95%**
 No = 5%

QA Events **Yes = 95%**
 No = 5%

Simulator **Yes = 5%**
 No = 95%

**Is this Clinical Assessment
Different than for non-Senior
Faculty ?**

Is this Clinical Assessment Different than for non-Senior Faculty ?

No = 100%



Academic Life Cycle

Resident → Fellowship



Lecturer/Instructor

Develop a
focused interest

Find mentor(s)
(k award)



Assistant Professor

Develop national
Recognition
(funding)

R01



Associate Professor

International
Recognition

R01s



Professor

Mentor
Administration

Clinical "Life Cycle"

Clinical
Effort/Adm

100%

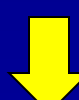
Assistant



Associate



Professor



100%

100% Adm

80% Adm *

50% Adm *

20% Adm *

Call

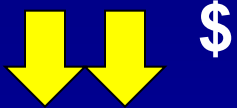
General &
Subspecialty Call



Subspecialty Call



No Call



No Mortgage

No College Tuition

* Resident evals & clinical/QA

Publications

1. *Financial Environment of Academic Anesthesia. Advances in Anesthesia, Mosby, Inc., Chapter 1, vol 19, pp. 1-35, 2001.*
2. *A Demographic, Service, and Financial Survey of Anesthesia Training Programs in the United States. Anesth Analg 2003; 96:1432-46.*
3. *Faculty and Finances of United States Anesthesiology Training Programs: 2002-2003. Anesth Analg 2004; 99:1185-92.*
4. *Trends in Financial Status of United States Anesthesiology Training Programs: 2000 to 2004. Anesth Analg 2006; 102:517-23.*
5. *Five-Year Follow-Up on the Work Force and Finances of United States Anesthesiology Training Programs: 2000 to 2005. Anesth Analg 2007; 104:863-68.*
6. *Six-Year Follow-Up on Work Force and Finances of the United States Anesthesiology Training Programs: 2000 to 2006. Anesth Analg, 2009; 108:263-272.*
7. *Seventh and Eighth Year Follow-Up on Workforce and Finances of the United States Anesthesiology Training Programs: 2007 and 2008. Anesth Analg, 2009; 109:897-899.*
8. *Workforce and Finances of the United States Anesthesiology Training Programs: 2009-2010. Anesth Analg, 2011; 112:1480-1486.*