

Update on the National Surgical Resident Cohort Study

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ARCS Meeting
May 1, 2009

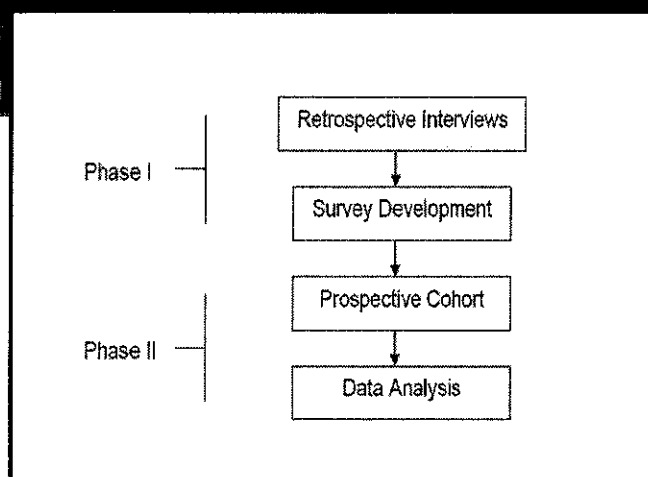
Aims of Study

- Determine national incidence of attrition
- Identify factors associated with intention to leave training and actual attrition
- Provide data to aid in the development of strategies to address attrition

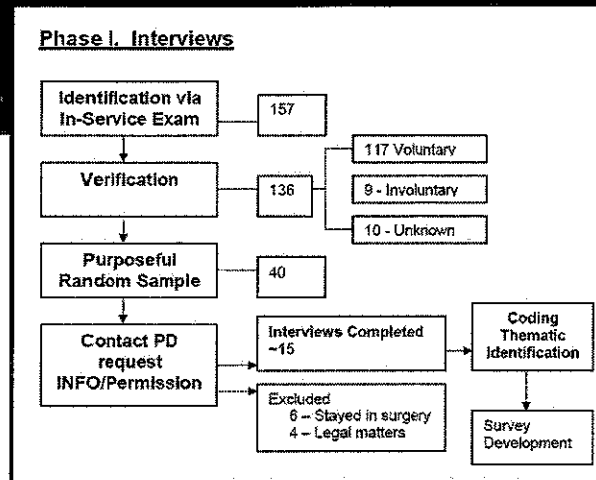
Multifactorial Considerations

| Systemic/Professional Factors | Institutional Factors | Resident Factors |
|---|--|--|
| <ul style="list-style-type: none">▪ Reimbursement▪ Renumeration▪ Litigation▪ Workplace Safety▪ Changing Field▪ Specialization▪ Lifestyle▪ Business model | <ul style="list-style-type: none">▪ Work Environment▪ Faculty/Mentorship▪ Salary/Compensation▪ Benefits▪ Caseload▪ Co-Residents▪ Education/Teaching▪ Geographic Location▪ Program Size | <ul style="list-style-type: none">▪ Age▪ Gender▪ Economics▪ Family▪ Skill Level▪ Job Satisfaction▪ Personality▪ USMG vs. FMG▪ Stress |

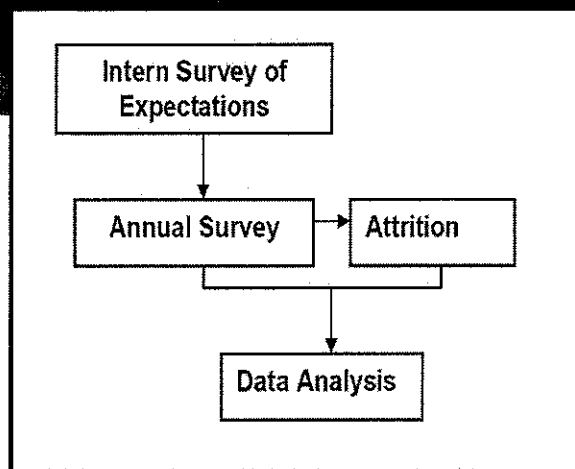
Methods: A Qualitative and Quantitative Approach



Phase I: Retrospective Interviews

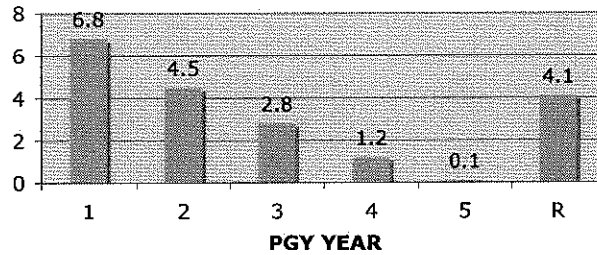


Phase II: Prospective Cohort Study (tracking residents annually)



Phase II: Prospective Cohort Study (tracking residents annually)

**CATEGORICAL RESIDENT ATTRITION 2007-
8**



CUMULATIVE RISK ~ 19%

2008 Attrition Survey Sample

| Demographics <i>Surgical Resident Cohort 2008</i> | |
|---|-----------|
| | N (%) |
| Total | 4586 (77) |
| Age (μ, yrs) | 30.6 (3) |
| Gender | 3114 (68) |
| Male | |
| PGY-Year | |
| 1 | 871 (19) |
| 2 | 962 (21) |
| 3 | 1027 (22) |
| 4 | 812 (18) |
| 5+ | 750 (17) |
| Lab Residents | 134 (3) |
| Marital Status | |
| Married/Partner | 2248 (49) |
| Single-Relationship | 1032 (23) |
| Race | |
| White | 2880 (63) |
| Black | 231 (5) |
| Asian | 814 (18) |
| Other | 420 (9) |

Intention to leave surgery

| GENDER | Q11 I have considered leaving my program in the last year | | | | | | | | | | | | | | All |
|---------|---|-----|----------|-----|-------|------|---------|------|----------|------|-------------|------|------|----|-----|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | H | | |
| | H | % | H | % | H | % | H | % | H | % | H | % | | | |
| Missing | | | 1 | 10 | | | | 1 | 10 | 7 | 70 | 1 | 10 | 10 | |
| Female | 26 | 1.9 | 64 | 4.6 | 200 | 14.4 | 173 | 12.5 | 400 | 28.8 | 526 | 37.9 | 1389 | | |
| Male | 55 | 1.8 | 74 | 2.5 | 316 | 10.6 | 265 | 8.9 | 822 | 27.5 | 1456 | 48.7 | 2988 | | |
| All | 81 | 1.8 | 139 | 3.2 | 516 | 11.8 | 439 | 10 | 1229 | 28 | 1983 | 45.2 | 4387 | | |

Program culture

| GENDER | Q3 Program has support structures for me to turn to when struggling | | | | | | | | | | | | | | All | |
|---------|---|-----|---------|-----|----------|------|-------|------|---------|------|----------|-----|-------------|-----|------|---|
| | INCORRECT | | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | | H |
| | H | % | H | % | H | % | H | % | H | % | H | % | H | % | | |
| Missing | | | | | 1 | 10 | 4 | 40 | 4 | 40 | 1 | 10 | | | 10 | |
| Female | 5 | 0.4 | 19 | 1.4 | 220 | 15.8 | 664 | 47.8 | 333 | 24 | 123 | 8.9 | 25 | 1.8 | 1389 | |
| Male | 5 | 0.2 | 50 | 1.7 | 698 | 22 | 1510 | 50.5 | 537 | 18 | 203 | 6.8 | 25 | 0.8 | 2988 | |
| All | 10 | 0.2 | 69 | 1.6 | 879 | 20 | 2178 | 49.6 | 674 | 19.9 | 327 | 7.5 | 50 | 1.1 | 4387 | |

| GENDER | Q15 Uncomfortable w some ethical decisions made by some attendings | | | | | | | | | | | | | | All |
|---------|--|-----|----------|-----|-------|------|---------|------|----------|------|-------------|------|------|--|-----|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | H | | |
| | H | % | H | % | H | % | H | % | H | % | H | % | | | |
| Missing | | | | | 1 | 10 | 2 | 20 | 5 | 50 | 2 | 20 | 10 | | |
| Female | 21 | 1.5 | 31 | 2.2 | 292 | 21 | 316 | 22.8 | 599 | 43.1 | 130 | 9.4 | 1389 | | |
| Male | 60 | 2 | 66 | 2.2 | 489 | 16.4 | 643 | 21.5 | 1373 | 46 | 367 | 11.9 | 2988 | | |
| All | 81 | 1.8 | 97 | 2.2 | 782 | 17.8 | 961 | 21.9 | 1972 | 45.1 | 488 | 11.1 | 4387 | | |

Money worries

| GENDER | Q45 Expectation of good compensation influenced my decision to be a surgeon | | | | | | | | | | | | All | |
|---------|---|-----|----------|-----|-------|------|---------|------|----------|------|-------------|------|------|----|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | | N |
| Missing | | | | | 5 | 50 | 3 | 30 | 2 | 20 | | | | 10 |
| Female | 47 | 3.4 | 25 | 1.8 | 265 | 18.1 | 378 | 27.2 | 528 | 38.1 | 145 | 10.4 | 1389 | |
| Male | 123 | 4.1 | 151 | 5.1 | 927 | 31 | 611 | 27.1 | 783 | 26.2 | 193 | 6.5 | 2988 | |
| All | 170 | 3.9 | 176 | 3.8 | 1192 | 27.3 | 1182 | 27.2 | 1314 | 30 | 339 | 7.7 | 4387 | |

| GENDER | Q46 Each year my expectations for the money I will make seem to go down | | | | | | | | | | | | All |
|---------|---|-----|----------|------|-------|------|---------|------|----------|------|-------------|-----|------|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | |
| Missing | | | 2 | 20 | 5 | 50 | 3 | 30 | | | | | 10 |
| Female | 46 | 3.3 | 129 | 9.3 | 517 | 37.2 | 451 | 32.5 | 236 | 17 | 10 | 0.7 | 1389 |
| Male | 123 | 4.1 | 473 | 15.8 | 1069 | 35.5 | 890 | 29.8 | 416 | 13.9 | 26 | 0.9 | 2988 |
| All | 169 | 3.9 | 604 | 13.8 | 1582 | 36.1 | 1344 | 30.6 | 652 | 14.9 | 36 | 0.8 | 4387 |

| GENDER | Q47 I worry about making enough money as a surgeon | | | | | | | | | | | | All |
|---------|--|-----|----------|-----|-------|------|---------|------|----------|------|-------------|-----|------|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | |
| Missing | | | 2 | 20 | 1 | 10 | 5 | 50 | 2 | 20 | | | 10 |
| Female | 47 | 3.4 | 94 | 6.8 | 338 | 24.3 | 344 | 24.8 | 487 | 35.1 | 76 | 5.7 | 1389 |
| Male | 120 | 4.3 | 326 | 11 | 797 | 26.7 | 716 | 24 | 867 | 26 | 152 | 5.1 | 2988 |
| All | 175 | 4 | 424 | 9.7 | 1135 | 25.9 | 1065 | 24.3 | 1358 | 30.9 | 221 | 5.3 | 4387 |

Performance worries

| GENDER | Q18 Worry not confident enough to perform procedure when done training | | | | | | | | | | | | All |
|---------|--|-----|----------|-----|-------|------|---------|------|----------|------|-------------|------|------|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | |
| Missing | | | | | 3 | 30 | 1 | 10 | 5 | 50 | 1 | 10 | 10 |
| Female | 21 | 1.5 | 73 | 5.3 | 450 | 32.4 | 225 | 16.3 | 472 | 34 | 147 | 10.6 | 1389 |
| Male | 61 | 2 | 104 | 3.5 | 557 | 18.6 | 538 | 18 | 1196 | 40 | 532 | 17.8 | 2988 |
| All | 82 | 1.9 | 177 | 4 | 1010 | 23 | 765 | 17.4 | 1573 | 38.1 | 680 | 15.5 | 4387 |

| GENDER | Q23 Attendings will think worse of me if I ask for help w managing a pt | | | | | | | | | | | | All | | |
|---------|---|---------|----|----------|----|-------|-----|---------|-----|----------|------|-------------|-----|------|------|
| | INCORRECT | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | | N | |
| Missing | | | | | | | 1 | 10 | 3 | 30 | 6 | 60 | 10 | | |
| Female | 1 | 0.1 | 23 | 1.7 | 19 | 1.4 | 191 | 13.8 | 246 | 17.7 | 741 | 53.3 | 158 | 12.1 | 1389 |
| Male | | | 75 | 2.5 | 56 | 1.9 | 373 | 12.5 | 534 | 17.8 | 1562 | 52.3 | 386 | 13 | 2988 |
| All | 1 | 0 | 98 | 2.2 | 75 | 1.7 | 565 | 12.8 | 783 | 17.8 | 2303 | 52.6 | 556 | 12.7 | 4387 |

Summary

- This study is a comprehensive prospective investigation of attrition from surgery residency
- Cumulative risk of categorical attrition is approximately 1 in 5 over course of residency
- Surveys show us that a substantial number of residents have concerns about program culture, finances, and performance.
- Next step is to determine which of these factors is correlated with actual attrition

Specialty training

| GENDER | Q39 Modern surgeon must become specialty trained to be successful | | | | | | | | | | | | All |
|---------|---|-----|----------|------|-------|------|---------|------|----------|------|-------------|-----|------|
| | MISSING | | S. AGREE | | AGREE | | NEUTRAL | | DISAGREE | | S. DISAGREE | | |
| | N | % | N | % | N | % | N | % | N | % | N | % | |
| Missing | | | 1 | 10 | 6 | 60 | 2 | 20 | 1 | 10 | | | 10 |
| Female | 47 | 3.4 | 159 | 11.4 | 548 | 39.5 | 291 | 21 | 316 | 22.7 | 29 | 2.1 | 1388 |
| Male | 116 | 3.9 | 430 | 14.4 | 1125 | 39.7 | 528 | 17.5 | 646 | 21.6 | 87 | 2.9 | 2988 |
| All | 163 | 3.7 | 590 | 13.4 | 1753 | 39.6 | 817 | 18.6 | 962 | 21.9 | 116 | 2.6 | 4357 |