Duke Anesthesiology

NIH T32

The Duke Experience:

Lessons Learned

Attracting Anesthesiologists To Research Training

- **Serious problem**

- **Increasingly more sophisticated tools/knowledge required for anesthesia practice**

- **Increasingly more sophisticated tools/knowledge required for research**

- **Average age of PI obtaining first R01 = 46 years**

Trainee Background Past 18 Years

- **2000-2011**
  - **14% PhD**
  - **29% Other Specialty MD**
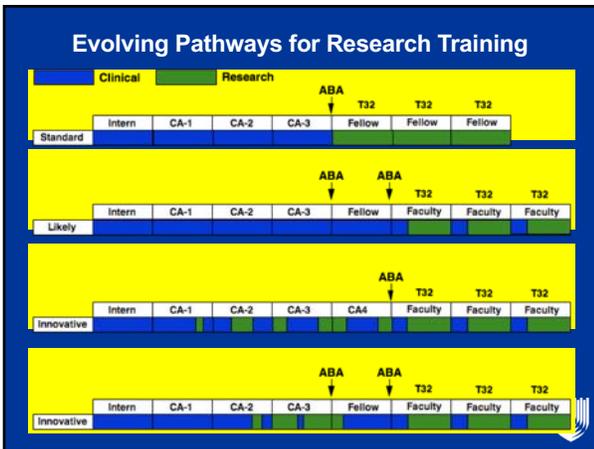 - **57% Anesthesiologist**

  - **0 MSTPs**

Source: NIH PHS 398 Table 8c.

Building A Pipeline

Engage Medical Students In Research
-Build on Undergraduate Experiences

Innovative Residency Programs

Evolving Pathways for Research Training

Trainee Background Past 18 Years

- **Before Residency Innovation (2000-2011)**
  - **14% PhD**
  - **29% Other Specialty MD**
  - **57% Anesthesiologist**

  - **0 MSTPs**

- **After Residency Innovation (2011-2018)**
- **0% PhD**
- **0% Other Specialty MD**
- **100% Anesthesiologist**

  - **6 MSTPs**

Source: NIH PHS 398 Table 8c.

Trainee Diversity: NIH Definitions

- **Under-represented minorities**
  - **Black or African-American**
  - **Hispanic or Latino**
  - **American Indian or Alaska Native**
  - **Native Hawaiian or Pacific Islander**
- **Disability**
- **Disadvantaged Backgrounds**

Trainee Diversity

- **Plan for recruitment must be established and executed**
- **Recruitment success is monitored by NIH**
- **Probation or discontinuation of funding (it does happen!)**

- **Prior to residency innovation program**
  - **1 URM in 17 years**
  - **Resulted in probationary status lasting 5 years**

- **After residency innovation program**
  - **4 URM in 7 years**

Trainee Diversity

Is This Success Linked To The Innovative Residency Program?

Trainee Diversity

Only, indirectly

1 of 4 URM derived from ACES program

Harnessing The Peer-Reviewed T32 As A Cornerstone of Academic Training

- ✓ Mentor Qualifications Reviewed and Approved By VC-Research, Chair, Program Director
- ✓ Written Career Development Plan
  - ✓ Reviewed and Approved by Mentor, VC-Research, Chair, Program Director
- ✓ Research Progress Updates (RPU)
  - ✓ Quarterly Written Progress Report
  - ✓ Semi-Annual Oral Progress Report With Mentor Present
    - ✓ Public and private feedback to trainee
- ✓ Required Participation in Departmental Research Events
- ✓ Support For Formal Coursework/Enrollment in Degree Granting Programs
- ✓ Formal Department-Wide Mentoring Program with Semi-Annual Feedback To VC-Faculty Development
- ✓ Annual Individual Private Meeting With Chair and VC-Research
- ✓ Compensation Associated With Academic Productivity
- ✓ Extramural Grant Review Program
- ✓ Formal biostastical analysis and locked data repository before manuscript submission

Is This Level of Monitoring Appropriate?

Conclusion: People Want To Be Part Of It

Where Are We Going?

Expectations are increasing for accelerated progress

ACES residents submit grant applications
K application expected early in T32
Hard decisions are being made for those with insufficient progress

Too early to tell conversion to R success rate

With improved pipeline, we have more product. How much can we absorb?

Greater selectivity of those enrolled in ACES and T32 to bring consistency to departmental areas of expertise and mission

Program Is Quite Similar to FAER Funding Structure!

1) Engage medical students in research

2) Sustain investigative growth during residency

3) Junior faculty programs to continue development as investigators

Duke Anesthesiology

Extraordinary Care – Through a Culture of Innovation