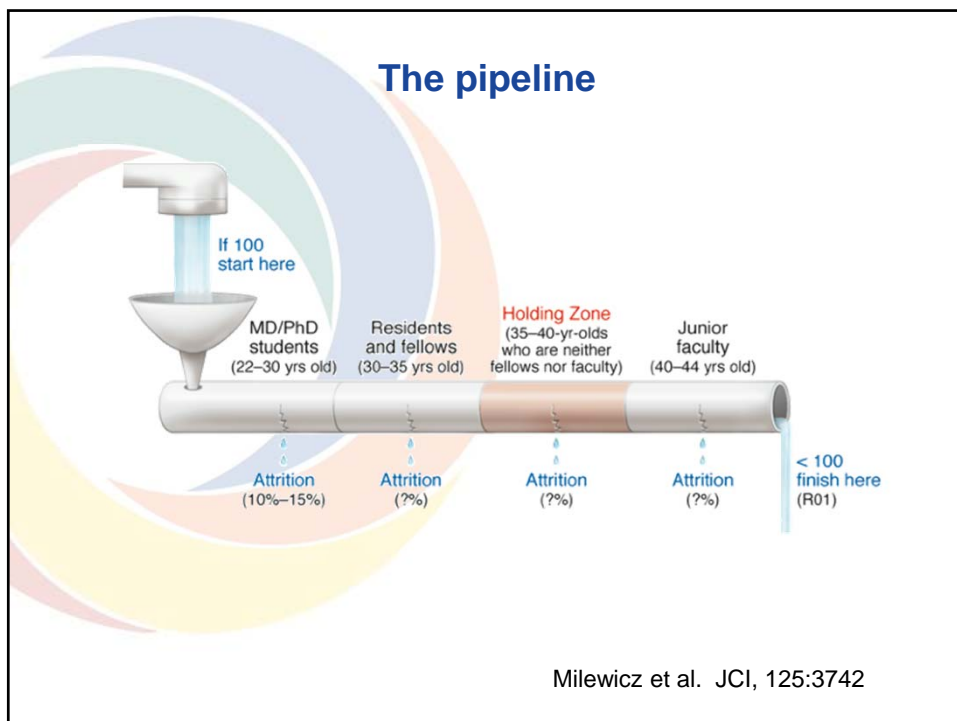
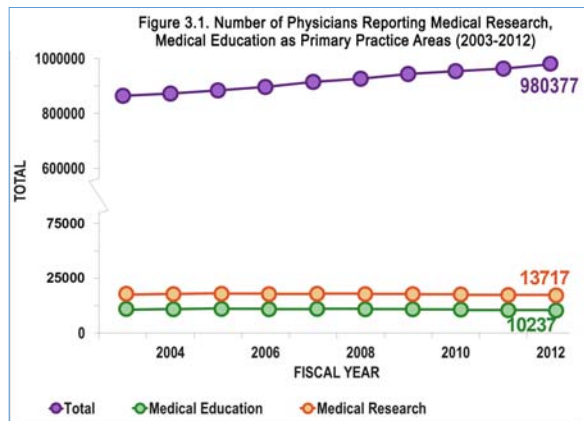


Breakout Group #2
Highly effective mentoring of the young physician-investigator in the “new era”

Mark Anderson, M.D., Ph.D. and
Nancy Brown, M.D.



The Physician-Scientist Pool is Stagnating

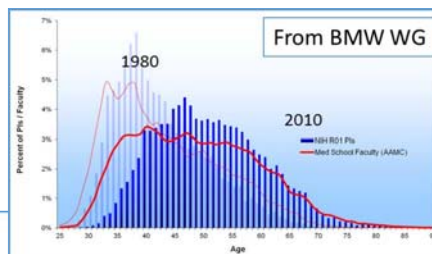
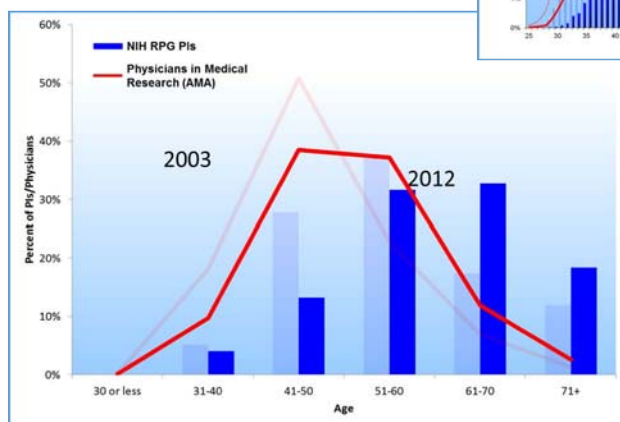


Total number of physician-scientists engaged in research unchanged over past decade



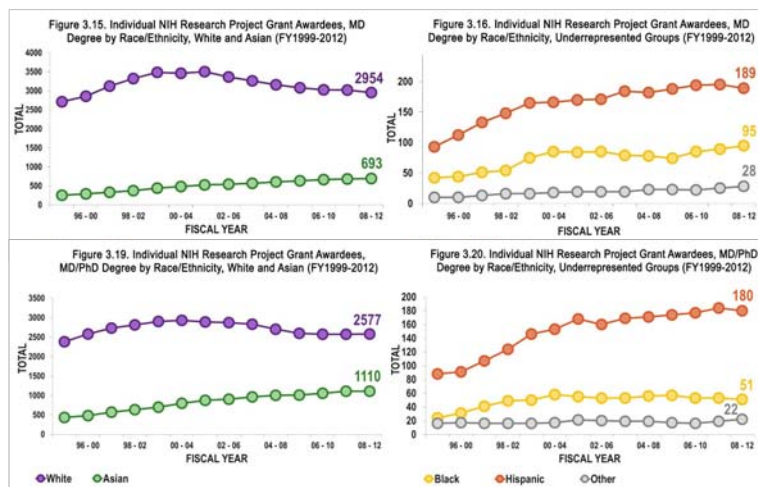
The Physician-Scientist Pool is Aging

Aging in PSW similar to BMW, but more pronounced



Race/Ethnicity Differences Among MDs and MD/PhDs

- Significant growth of Asian and Hispanic awardees #s
- Less growth of African-American and Native American #s



National Institutes of Health
Office of Governmental Affairs

PSW Workforce Working Group Report

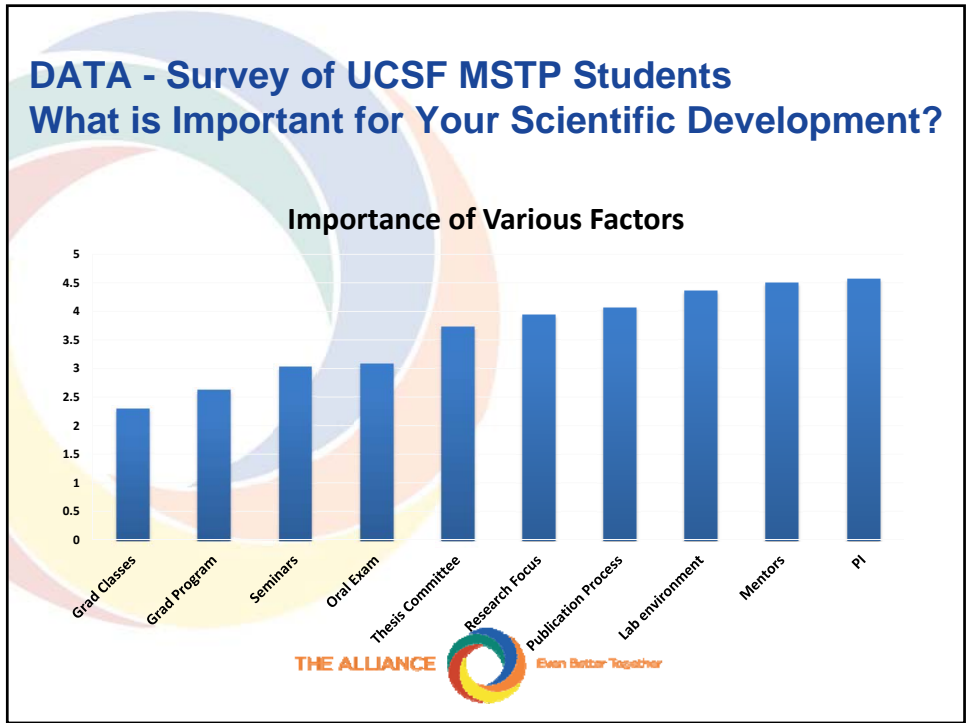
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Known and Unknowns in This Area

- **Knowns**
 - Mentorship is often cited as crucial to success. Many successful scientists cite a mentor as key.
 - Many challenges. \$\$, time, rapid changes in research techniques and funding
 - Many mentors enjoy this activity and find it valuable
- **Unknowns**
 - Does training mentors help?
 - Who do we enlist?
 - The future?



DATA - Survey of UCSF MSTP Students What is Important for Your Scientific Development?



What makes a great mentor? Group Exercise

- Instill the thrill and passion for discovery

THE ALLIANCE  Even Better Together

Is the mentored apprenticeship the best model?

- Strengths and weaknesses?
- Alternative models?
- Complementary models?



What resources are needed to support mentorship?

- Institutional oversight?
- Institutional dollars - for the candidate, the mentor, the project?
- Career development curricula?
- How do we incentivize both sides?
- Scientific or methodological curricula?
- Team mentoring? Composition?



Are different approaches needed for specific groups?

e.g.

- Women and under-represented minorities?
- Faculty in research intensive versus non-research intensive institutions?



Training mentors, is it necessary?

- What strategies can we implement to get mentors to be more effective?
- Feedback system?
- Mentoring committee?



Extended mentorship: How do we shepherd our investment beyond independence?

- Advanced career development?
- Leadership?



Action item #4: Mentoring and oversight of physician-scientist trainees at all levels should be centralized to reduce attrition

Harmonize physician-scientist training institutionally. As our final action item, we urge the establishment of institutional physician-scientist career development offices specifically tasked to oversee career development programs for physician-scientists to help overcome their major barriers at various stages of training — barriers that include funding, uneven departmental or divisional support, and insufficient mentorship (25, 26). Leaders of such offices should have sufficient executive authority to coordinate the breadth of physician-scientist training activities within the institution. These offices should synergize with MD-PhD programs and NIH-funded CTSA centers. This type of centralized oversight has demonstrated excellent early outcomes at Vanderbilt University School of Medicine (27).

PERSONAL PERSPECTIVE

The Journal of Clinical Investigation

Rescuing the physician-scientist workforce: the time for action is now

Dianna M. Milewicz,¹ Robin G. Lorenz,² Terence S. Dermody,³ Lawrence F. Brass,⁴
and the National Association of MD-PhD Programs Executive Committee⁵