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

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The pipeline

Milewicz et al. JCI, 125:3742
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

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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?

Importance of Various Factors

What makes a great mentor?
Group Exercise

- Instill the thrill and passion for discovery
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).

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

Diana M. Milukaitis, Robin L. Lorentz, Terence S. Dennehy, Lawrence F. Breaz, and the National Association of MD-PhD Program Executive Committee