Opportunities and Challenges of a PSP Director

Peter Klein
University of Pennsylvania
School of Medicine
March 18, 2018
Scope

• Challenges facing physician-scientist training

• Review of a few common sense proposals

• As a way to continue the conversation: How the Penn PSP approaches some of these issues.
Challenges

• Recruitment and retention: The declining number of physician-scientists

• Integration: Lack of exposure to research during clinical training

• Time to independence

• Funding

• Mentoring
Figure 1 from: Rescuing the physician-scientist workforce: the time for action is now

Milewicz, Lorenz, Dermody, Brass, and the National Association of MD-PhD Programs Executive Committee  *J Clin Invest* 125:3742, 2015.
Recommendations

• Integrate medical and research training
• Shorten the time to independence
  • Shorten training
  • Earlier independent funding
• Recruit more physician scientists
• Increase diversity
• Better organize mentoring and oversight
• share best practices; collect outcome data

Milewicz, Lorenz, Dermody, Brass, and the National Association of MD-PhD Programs Executive Committee  *J Clin Invest* 125:3742, 2015.
The Physician-Scientist Program
Experience at Penn

The PSP at Penn is really two entities:
1. An ABIM Research Pathway
2. A community of physician-scientists
The Physician-Scientist Program
Experience at Penn

- Started in 1994
- Separate NRMP match in 2010 with 4 positions
- Increased to 6 positions in 2018
- Clinical training fully integrated with categorical program
- Currently 10 residents and 10 fellows
The Physician-Scientist Program
Experience at Penn

- 2-3 years residency
- 3 years fellowship
- Continued contact after fellowship
The Physician-Scientist Program Goals

- Advance the training of physician-scientists (duh)
- Provide a peer group for trainees
- Maintain connection to science
- Inclusion
- Flexibility
- Mentoring
- Tracking
The Physician-Scientist Program Recruitment

- Screen ~150 apps, interview 40+ applicants.
- Criteria:
  - evidence of commitment to research (defined broadly)
  - evidence of research accomplishment
  - PhD is not a requirement
- Close interaction with categorical program
The Physician-Scientist Program Activities

- Mentoring
- Exposure to research during clinical training
- Career development
- Grant writing workshops
- Peer group/social activities

(more later)
The Physician-Scientist Program
Outcomes

• Graduates 2004-present:
  – 20/22 are in research related fields
  – 18/22 are Assistant Professors at UPenn, Harvard/MGH, UCSF/Berkeley, Michigan, NYU, UCLA, Wash U, Brown, Duke, Maryland, Pitt
  – 1 Instructor at Penn
  – 1 Clinical trials in Pharma
The Physician-Scientist Program

Outcomes

- Graduates 2004-present:
  - 20/22 are in research related fields
  - 18/22 are Assistant Professors at UPenn, Harvard/MGH, UCSF/Berkeley, Michigan, NYU, UCLA, Wash U, Brown, Duke, Maryland, Pitt
  - 1 Instructor at Penn
  - 1 Clinical trials in Pharma

- Graduates prior to 2004:
  - 15/17 in research:
  - 14 faculty at UPenn, UCSF, UCSD, Univ Washington, Tufts, Vanderbilt, Sloan-Kettering, Univ. Colorado, UNC
Recruitment and retention

• PSP not likely to increase # going into research but should help retain.
Recruitment and retention

- PSP not likely to increase # going into research but should help retain.
- Bring in late bloomers
  - Most MD students do have research experience - We include all with interest in PSP functions
Recruitment and retention

• PSP not likely to increase # going into research but should help retain.
• Bring in late bloomers
  – Most MD students do have research experience-
    We include all with interest in PSP functions
  – New programs: STARR, BWF
Recruitment and retention

- PSP not likely to increase # going into research but should help retain.
- Bring in late bloomers
  - Most MD students do have research experience
    - We include all with interest in PSP functions
  - New programs: STARR, BWF
  - Provide clarity about career path
Recruitment and retention

What the “pipeline” might look like to the trainee

Diagram: A pipeline showing different stages with labels:
- MD/PhD students (22–30 yrs old)
- Residents and fellows (30–35 yrs old)
- Holding Zone (35–40-yr-olds who are neither fellows nor faculty)
- Junior faculty (40–44 yrs old)

Attrition levels:
- MD/PhD students: 10%–15%
- Residents and fellows: ?%
- Holding Zone: ?%
- Junior faculty: ?%

The diagram illustrates the flow from recruitment to retention, with attrition rates at various stages.
Recruitment and retention

• PSP not likely to increase # going into research but should help retain.
• Bring in late bloomers
  – Most MD students do have research experience-
    We include all with interest in PSP functions.
  – New programs: STARR, BWF
  – Provide clarity about career path
• Dare we consider foreign medical graduates?
Recruitment and retention

• PSP not likely to increase # going into research but should help retain.
• Bring in late bloomers
  – Most MD students do have research experience-
    We include all with interest in PSP functions
  – New programs: STARR, BWF
  – Provide clarity about career path
• Dare we consider foreign medical graduates?
• Retain current PS
Inclusion

• All interested in research are included, though there is a cap on # who can short track.

• While most of those who match into the research track are MD/PhDs, MDs from the categorical program are welcomed into the PSP system.

• Integration of residents and fellows in other training program [including Pediatrics, Pathology, Dermatology, Family Medicine, Psychiatry]
Flexibility

• Listen to trainees and adapt to their needs.
  – Research resources
  – Alternative research interests
  – Diverse career paths
Maintaining connection to science

• Research in progress:
  – Monthly informal seminars by faculty
  – Resident initiated and organized
  – Participation of multiple training programs

• Physician-scientists at resident report

• Dinners with visiting physician-scientists

• Interaction with MD/PhD Students
Mentoring

- Meet one-on-one beginning at orientation
- Connect with fellowship program directors and potential scientific mentors
- Mentoring committees
- Career development workshops
- K award workshops (GPS)
- Peer to peer mentoring
The Physician-Scientist Program

- Recruitment and retention
- Maintain connection to science
- Inclusivity
- Flexibility
- Mentoring
Thanks

- Skip Brass
- Rebecca Baron
- Michael Parmacek (Chair of Medicine)
- Charles Abrams (Chief Scientific Officer)
- Todd Barton (Categorical Program Director)