

Advising Research-Oriented Medical Students

UME → GME Transition Framework

AAIM Research Committee | Academic Internal Medicine Week 2026

1. Clarify Career Intent

- Academic clinician?
- Physician-scientist?
- Unsure?
- Prestige-driven vs mission-driven?

2. Assess Research Trajectory

- Sustained inquiry or episodic projects?
- First-author original work?
- Strong mentor advocacy?
- Clear subspecialty alignment?
- Scholarship (numbers) vs trajectory (depth + direction)

3. Evaluate Clinical Readiness

- Clerkship performance
- Subl strength
- Board confidence
- Readiness for accelerated pathways

4. Match to Residency Structure

Career Goal	Recommended Path
Explore research	Categorical + electives
Build skills	R38 / StARR
Committed physician-scientist	PSTP / ABIM Research Pathway

5. Discuss Risk Points Explicitly

- PGY1 clinical overload
- Loss of research identity
- Mentor misalignment
- Financial pressures
- Premature subspecialty narrowing

Advisor Action Checklist

- Clarified long-term vision
- Distinguished scholarship vs trajectory
- Assessed clinical readiness
- Reviewed pathway structures
- Emphasized fit over prestige

Notes for Advisors

1. Clarify Career Intent

Begin by helping students articulate their long-term vision:

- **Academic clinician?** Interested in teaching, quality improvement, or clinical scholarship with some research involvement
- **Physician-scientist?** Committed to independent, hypothesis-driven research as primary career focus
- **Unsure?** Need protected time to explore research during residency
- **Prestige-driven vs mission-driven?** Distinguish between seeking impressive credentials and genuine intellectual curiosity

Understanding career intent shapes all subsequent pathway decisions and helps students select programs aligned with their goals rather than simply the most prestigious options.

2. Assess Research Trajectory

Move beyond counting publications to evaluate the **depth and direction** of research experience:

- **Sustained inquiry or episodic projects?** Look for longitudinal engagement with a research question rather than disconnected projects
- **First-author original work?** Original research publications demonstrate independent contribution and scientific maturity
- **Strong mentor advocacy?** Letters from research mentors carry significant weight for physician-scientist programs
- **Clear subspecialty alignment?** Has research experience informed clinical interests?
- **Scholarship (numbers) vs trajectory (depth + direction):** Programs value research trajectory (the story of intellectual development) over raw publication counts

Students with sustained research involvement, first-author publications, and strong mentor relationships are better positioned for competitive physician-scientist pathways.

3. Evaluate Clinical Readiness

Research commitment must be balanced with clinical competence:

- **Clerkship performance:** Strong clinical evaluations demonstrate ability to handle dual demands

- **Subl strength:** Performance on sub-internships predicts residency success
- **Board confidence:** USMLE/COMLEX pass / score if thresholds
- **Readiness for accelerated pathways:** Some programs compress clinical training—students must be clinically capable of meeting milestones to succeed

Clinical competence is non-negotiable for physician-scientist success. Programs seek trainees who can succeed in both domains.

4. Match to Residency Structure

Different career goals require different training pathways.

Key pathway features:

- **Categorical programs:** Flexibility to pursue research through electives, scholarly concentrations, or chief resident research tracks
- **R38/StARR programs:** 12-24 months of protected research time during residency with NIH funding and mentorship
- **PSTPs:** Integrated residency-fellowship programs with 2-4 years of protected research time (often through ABIM Research Pathway), often with institutional funding and fellowship positions
- **ABIM Research Pathway:** Allows 24 months of residency time to count toward board certification requirements followed by subspecialty clinical training and 36 months of research.

5. Discuss Risk Points Explicitly

Prepare students for common challenges in the physician-scientist pathway:

- **PGY1 clinical overload:** Intern year demands can derail research momentum—encourage maintaining mentor contact
- **Loss of research identity:** Clinical immersion may shift priorities—protected research time helps maintain focus
- **Mentor misalignment:** Research mentors from medical school may not align with residency location or interests—plan for mentor transitions
- **Financial pressures:** Extended training and lower clinical income create stress—discuss loan repayment programs (NIH LRP)
- **Premature subspecialty narrowing:** Committing too early may limit research opportunities—encourage broad exploration

Naming these challenges explicitly helps students develop mitigation strategies and realistic expectations.

Advisor Action Checklist

Before concluding your advising session, ensure you have:

- Clarified long-term vision:** Helped student articulate career goals beyond "I like research"
- Distinguished scholarship vs trajectory:** Evaluated depth and direction, not just publication count
- Assessed clinical readiness:** Confirmed student can handle dual clinical-research demands
- Reviewed pathway structures:** Matched student goals to appropriate residency programs
- Emphasized fit over prestige:** Encouraged selection based on mentorship, research alignment, and institutional support

References

1. [Strategic Tips to Successfully Undertake Research: A Comprehensive Roadmap for Medical Trainees](#). Akefe IO, Adegoke VA, Akefe E. Postgraduate Medical Journal. 2025;101(1196):574-582. doi:10.1093/postmj/qgaf001.
2. [Twelve Tips for Introducing Students to Research and Publishing: A Medical Student's Perspective](#). Mabvuure NT. Medical Teacher. 2012;34(9):705-9. doi:10.3109/0142159X.2012.684915.
3. [The Next Generation of Physician-Researchers: Undergraduate Medical Students' and Residents' Attitudes, Challenges, and Approaches Towards Addressing Them](#). Mokhtari B, Badalzadeh R, Ghaffarifar S. BMC Medical Education. 2024;24(1):1313. doi:10.1186/s12909-024-06166-8.
4. [Barriers and Enablers to Medical Students' Engagement in Research and Clinical Academic Careers: A Mixed-Methods Study](#). Bain R, Lee J, Soars S, et al. BMJ Open. 2025;15(10):e102988. doi:10.1136/bmjopen-2025-102988.
5. [Training the Physician-Scientist: Views From Program Directors and Aspiring Young Investigators](#). Williams CS, Iness AN, Baron RM, et al. JCI Insight. 2018;3(23):125651. doi:10.1172/jci.insight.125651.

6. [Pearls of Wisdom for Aspiring Physician-Scientist Residency Applicants and Program Directors](#). Gallagher EJ, Rockey DC, Kontos CD, et al. JCI Insight. 2022;7(6):e158467. doi:10.1172/jci.insight.158467.
7. [Early Outcomes of a New NIH Program to Support Research in Residency](#). Price Rapoza M, McElvaine A, Conroy MB, et al. Academic Medicine : Journal of the Association of American Medical Colleges. 2022;97(9):1305-1310. doi:10.1097/ACM.0000000000004643.
8. [The Johns Hopkins Physician-Scientist Training Program to Enhance Institutional Retention and Entry Into Academic Positions: An Evaluation of Program Effectiveness and Outcomes](#). Rincon-Torroella J, Feghali J, Antar A, et al. Academic Medicine : Journal of the Association of American Medical Colleges. 2025;100(1):63-71. doi:10.1097/ACM.0000000000005748.
9. [Predictors of Academic Career Progression Among Early Career Physician-Scientists via an Intensive Research Training Program Abroad: A Case Study](#). Liao S, Lavender C, Zhai H, Zhou X. BMC Medical Education. 2023;23(1):94. doi:10.1186/s12909-023-04069-8.
10. [Early Predictors of Career Achievement in Academic Medicine](#). Brancati FL, Mead LA, Levine DM, et al. JAMA. 1992;267(10):1372-6.
11. [Physician-Scientists in the United States at 2020: Trends and Concerns](#). Garrison HH, Ley TJ. FASEB Journal : Official Publication of the Federation of American Societies for Experimental Biology. 2022;36(5):e22253. doi:10.1096/fj.202200327.