

A Dual-Pathway Training Model for Medical Trainees to Promote Research and Clinical Excellence

Biomedical research has long been considered a cornerstone of medical education, shaping the future of patient care through scientific discovery. Medical students have occasionally played critical roles in the development of novel therapeutics. For example, Charles Best worked alongside Dr. Frederick Banting in the first experiments identifying insulin.¹ However, there has been an increasing concern about the “Publish or Perish” mentality, as medical literature increases in quantity, but not necessarily quality.² Participation in research has become more of a necessity than a passion for many medical trainees. This escalating “arms race” for residency spots and prestigious attending positions has cultivated an environment where research is pursued as a checkbox rather than a genuine intellectual endeavor.³ Consequently, research quality is diluted, funding is misallocated, and trainees have undue stress placed on them.

To address this issue, I propose the development of a nationally recognized, competency-based “Clinical Distinction Pathway” (CDP) to exist alongside a “Research Distinction Pathway” (RDP). Students who are planning to pursue primarily clinical work can choose where to focus their efforts without the consequence of a less competitive CV. Students inclined towards research should also have the opportunity to pursue a research-focused medical training distinction, or even an MD/PhD degree if they wish. The CDP would provide medical trainees with an opportunity to demonstrate excellence in patient care through structured clinical training, procedural mastery, and evidence-based practice improvement projects, potentially even implementing bench-to-bedside research. By offering these two parallel yet equally prestigious tracks, we can optimize research funding, enhance the quality of clinical training, and create a more equitable system for aspiring physician-scientists and pure clinicians.

For the majority of medical trainees, research is viewed as a requirement, rather than a passion. This has become a necessity to remain competitive in the match process, as well as to secure a strong attending position post-residency. This environment leads to superficial research contributions, with many trainees publishing studies that are rushed, redundant, lack meaningful impact, or adding to an already-saturated pool of publications that does little to advance medicine. Resources are wasted. Principal investigators (PIs) and institutions must dedicate time, mentorship, and funding to trainees who may have no long-term commitment to research. Training becomes unbalanced as a result. Trainees who are passionate about clinical work may spend valuable time conducting research rather than honing skills that would make them better physicians. At the same time, students with true research interests must compete with and wade through a saturated pool of trainees seeking to merely boost their academic profiles.

The solution is the development of parallel and equally-prestigious learning pathways that are recognized by residency programs and institutions across the country. The CDP would serve as a rigorous, objective alternative to the research pathway, ensuring that trainees can demonstrate excellence through a structured curriculum emphasizing clinical mastery. This would include advanced clinical competency modules focused on areas such as bedside diagnosis, procedural skills, and clinical decision-making. Additionally, teaching and leadership certifications for mentoring junior trainees in clinical settings would prepare physicians for their future attending careers. Case-based and simulation training would also be vital, with

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certificates in point-of-care ultrasound, intra-articular injections, and suturing, among other skills. The different elements of this program would have established weights that are equivalent to abstracts, oral presentations, first-author publications, and other such research activities.

In regard to ensuring a sustainable, inclusive, and successful future biomedical research workforce, I believe that there would be numerous impacts and benefits of this proposed dual-pathway training model. The proper allocation of research efforts and focus would lead to more meaningful publications, with truly-dedicated trainees, more effective and time-dedicated mentorship, and greater focus on relevant projects. At the same time, we would have better-trained clinicians that can then utilize bench-to-bedside research for their patient populations. Resources would be allocated far more effectively, with institutions prioritizing projects that are pursued by those with a vested interest in discovery. Finally, I believe that we develop a more equitable training system by allowing learners to pursue what aligns with their career aspirations, without compromising future prospects.

To conclude, the current research culture in medical training prioritizes quantity over quality, leading to inefficiencies in resource allocation and unnecessary stress on trainees. A dual-pathway approach, particularly with the establishment of a Clinical Distinction Pathway, would provide an innovative, sustainable, and inclusive framework that allows future physicians to pursue their passions. In parallel, a Research Distinction Pathway, would embolden students with genuine research interests. This ensures that medical and research training remains focused on what truly matters: advancing patient care. By implementing this dual-track system, we can foster a more effective biomedical workforce that maximizes both research innovation and clinical skill development.

References

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