

dear residents

The Engine and the Driver

June 21, 2026

Dear Residents,

Happy Father's Day.

My father was an orthopedic surgeon who trained during and after World War II. To my knowledge, he [published](#) two papers on paraplegia. Over the course of his career, however, he likely performed more than 100,000 operations and transformed the lives of countless patients.



I often wonder how his application would be viewed today. He was unquestionably an outstanding surgeon, but he came from an era when residency selection focused far more on clinical aptitude and far less on research productivity. In many specialties today, a medical student with a similar scholarly record might struggle to stand out in an increasingly competitive application process.

That change is neither entirely good nor entirely bad. Research has advanced medicine in extraordinary ways, and we need physicians who create new knowledge. At the same time, it raises an important question: how do we ensure that our training and selection processes continue to recognize and reward exceptional clinicians as well as exceptional researchers?

Over the years, I have learned a great deal about evidence-based medicine, research methodology, and how each informs the other. I developed an appreciation for the many forms of bias that can influence a study's conclusions and learned that, despite safeguards such as randomization, blinding, and allocation concealment, some degree of bias is often unavoidable. I gained an understanding of the distinction between correlation and causation, how to interpret p-values and confidence intervals, and how to evaluate measures such as odds ratios, relative risk, absolute risk, number needed to treat, and number needed to harm. I also learned about placebo and nocebo effects, as well as the strengths and limitations of observational studies, randomized controlled trials, prospective and case-control designs, and N-of-1 studies.

Together, these concepts provided a framework for understanding medical research, how to interpret it, how to apply it appropriately to patient care, and how to recognize its limitations. They also allowed me to participate in research myself.

My interests eventually expanded beyond traditional clinical research. Through the work of [Daniel Kahneman](#) and others, I learned how humans perceive probability, risk, and uncertainty, and how those perceptions influence decision-making. I became interested in implementation science: the study of the gap between what we know and what we actually do. That interest led me into quality improvement and eventually into the development of clinical registries.

Each step was connected to the same fundamental question: how do we generate knowledge, and how do we use it to improve care? Evidence-based medicine sits at the intersection of those two tasks. It helps us judge the quality of the knowledge that research produces and apply it thoughtfully to the patients in front of us.

Research can be daunting. Yet it remains essential that physicians understand research and its most practical product: clinical evidence. It is equally important that many of you actively participate in creating new knowledge.

As I think about your experience in residency, I recognize the challenge this creates. You are expected to master the fundamentals of internal medicine while simultaneously building a scholarly portfolio that increasingly serves as academic currency in the fellowship selection process. For some of you, research careers were part of the plan from the beginning. Others discovered those interests later. Still others pursue scholarship because it has become an increasingly important [signal](#) in the educational marketplace, helping applicants distinguish themselves in a selection process that often struggles to differentiate among highly accomplished trainees.

This creates a difficult balancing act.

Research is the engine that advances medicine. But without strong clinicians, we would have plenty of vehicles and too few drivers. Scientific discovery matters. So does the ability to diagnose illness, communicate with patients, perform careful physical examinations, make sound clinical decisions, and earn the trust of those we serve.

I am also mindful of the unintended consequences of our current system. Research expectations can become barriers. Faculty who devote themselves to clinical care and medical education may find advancement more difficult without traditional scholarship. Medical students pursuing highly competitive specialties may feel compelled to dedicate an entire year to research. In some specialties, the scholarly output [reported](#) by successful applicants has reached levels that would have been difficult to imagine when many of us trained. What began as a way to identify future physician-scientists can sometimes become an arms race of credentials.

The challenge for residency programs is not choosing between clinical training and research. We must do both well.

This program has historically made it easier to become an excellent clinician than an accomplished researcher. We provide extraordinary clinical experiences and patient populations that accelerate learning. At times, however, we have struggled to provide enough mentors, projects, and scholarly opportunities for every resident who seeks them. [Closing that gap](#) remains an important goal.

The future of medicine depends on a continuous cycle of discovery, evaluation, implementation, and practice. Research generates new knowledge. Evidence-based medicine helps us evaluate and apply it. Clinical experience reveals new questions and unmet needs. Those questions, in turn, drive the next generation of research.

It needs physician-scientists who generate new knowledge and clinicians who apply that knowledge wisely. Most importantly, it needs physicians who understand both worlds well enough to bridge them.

That balance is not always easy to achieve, but it is worth striving for.

Warm regards,

Dino Kazi