Scientific Biography of a Mid-Career Physician-Scientist: Getting by With Help From My Friends

Eric J. Lenze, M.D.

Success is not final, failure is not fatal: it is the courage to continue that counts.—Winston Churchill I am a physician-scientist. I am a geriatric psychiatrist and a clinical trialist with several studies under my belt. These successes have been hard-won, and thanks to help from my friends and colleagues every step of the way."Guided persistenc," is my theme for this autobiography – a recipe for young physician-investigators.

My scientific career, follows my moves. I have moved three times, for three reasons: school, work, and then love. I will not focus on the school—the 12 years I spent at Washington University for college, medical school, and psychiatry residency—except to thank a few folks who helped me on the path toward being a physician-scientist. First, Yvette Sheline, M.D., and Carol North, M.D., provided me research opportunities during residency. The experiences were not in geriatric psychiatry, but that did not matter; they led to publications—early wins in a critical developmental period for me. I am convinced that for a physician in residency, the best research experience—by far—is one that leads to a first-authored peer-reviewed publication. In particular, Yvette generously let me analyze and publish neuroimaging data she had already collected. Now that I am mentoring residents for research careers, I follow this same strategy: work with existing data, design hypotheses, and generate a publication in a peer-reviewed journal.

Second, Gene Rubin, M.D., Ph.D., has provided sage advice for more than 20 years as a medical student advisor, residency director, and then as a friend. Good residency directors are very influential in shaping young physician-scientists. I listened to Gene's advice about moving for academic success, so after residency I found myself . . .

PART 1: AT THE UNIVERSITY OF PITTSBURGH ("PITT") 1999–2007

I moved to Pitt for a geriatric psychiatry clinical fellowship, and then a T32 research fellowship in late-life mood disorders, headed by Charles F. Reynolds III, M.D. (hereafter, "Chip"). Following residency with a research fellowship is critical for physician-scientists, especially someone like me, without a Ph.D. and with limited research experience. Working with Chip brought me to Pitt because of his reputation as an outstanding mentor and because I wanted to do what he did: lead clinical trials in late-life mental disorders.

Why choose a career in geriatric mental health clinical trials? As a clinician, I have always found myself drawn to clinical s, such as which treatment is best for which patient and how do we optimize treatments. Clinical trial research is a natural place for a physician, as it centrally involves assessing and managing patients. My best and most inspired research s have come from patients and my desire to make life

Received June 11, 2018; accepted June 11, 2018. From the Department of Psychiatry, Washington University School of Medicine, St Louis. Send correspondence and reprint requests to Eric J. Lenze, M.D., Department of Psychiatry, Washington University School of Medicine, 660 South Euclid, Box 8134, St Louis 63110. Phone: (314) 362-5154. e-mail: lenzee@wustl.edu

https://doi.org/10.1016/j.jagp.2018.06.003

better for them. I think this is a common theme in our field, fueling our persistence in the face of failures.

Getting Mentorship

I recommend to young physician-scientists to work with a mentor who is committed to helping you succeed and who has the knowledge and resources to do so. Intervention research is very difficult. It is a daily battle, and a clinical trial can go wrong in limitless ways—usually along the "3 R's": recruitment (is it adequate?), retention (do participants stay in the study and adhere to the treatment?), and reliability (are the outcome measures up to the task of measuring intervention effects?). Learning the craft requires an apprenticeship in a successful clinical trial shop, working closely with a top research mentor. For a physician-scientist, a research mentor is a template, or role model, who teaches you by demonstrating the art and skill of academia.

I will describe three successful aspects of my mentoring relationships at Pitt, the first being structure and support. Each week I met with Chip for about 30 minutes, and I would bring a "things to discuss" list for his review and advice; at the end of the meeting, I would then create a "things to do" list. This kept me focused on what mattered most (progress toward papers and grant applications). Using these lists, the weekly meetings became de facto deadlines for me. In addition, Chip would use the meetings to give me feedback, which would point my persistence in the right direction. Similarly, the mentoring provided an emotional boost. Sometimes it was just a clear message that I was going in the right direction. Other times Chip needed to encourage me not to give up when things did not go as expected—which was often. The best mentors help their mentees process failure and see it as both a necessary step and a learning experience.

A second aspect was showing up—at lab meetings and whatever else I could attend—and being part of a team. Chip's lab was the National Institute of Mental Health (NIMH)-funded Intervention Research Center for Late-life Mood Disorders, with weekly lab meetings focused on all aspects of clinical trials. The center was a team with many excellent physicians, psychologists, statisticians, and others sharing their particular areas of expertise. Watching them work together, and getting their help and their diverse viewpoints, helped me learn by example and eventually grow into a team leader. For example, Benoit Mulsant, M. D., was at the time a rising star in geriatric psychiatry (he is now the chair of psychiatry at the University of Toronto). Ben was my de facto co-mentor, providing a complementary viewpoint to Chip's, recommending new directions in my research, and giving career advice. Also critical for my development was Mary Amanda Dew, Ph.D., a research methodologist; she taught me a lot about designing and conducting a clinical trial. And, of course, access to a statistical data analyst was important (thanks in particular to Amy Begley for patiently working with this stats-poor physician).

Finally, written feedback was critical. Chip reviewed any progress I made in my writing (a draft of a manuscript, a grant application), which I would send him, getting a round of written feedback, usually the next day. Ben and Mary Amanda were similarly helpful in providing this feedback. Almost every paper and grant I wrote while at Pitt was reviewed multiple times by these three experts, with multiple rounds of feedback from each.

I want to talk more about the central role of feedback in the development of a physician-scientist. It is a mistake to think you must be a prodigy to succeed as a physician-scientist; instead, you must develop a great deal of expertise. This expertise is not innate talent (or genius); instead, it is a lifetime of sustained effort, of honing skills and developing new ones. A great source on this topic is Anders Ericsson.[1] Ericsson argues that high-level expertise ensues from a great deal of deliberate and guided practice (think of the 10,000 hours rule). In academic medicine, that guidance comes in the form of feedback, most of it written. For example, when I write a grant, it gets reviewed many times by sometimes dozens of expert colleagues, and then it gets a round of feedback from the study section. Every paper goes through many rounds of feedback, both before and after submission to a journal. The most successful researchers constantly seek out and incorporate feedback from others. This persistence and the willingness to be guided are necessary characteristics for academic success.

Go Where the Questions Take You

One concept driving my interest in geriatric mental health was the relationship of depression and