

Commentary

Family Medicine Research: Eyes Wide Open

Robert L. Ferrer, MD, MPH

It's a tough time to be a young family medicine researcher. Family medicine departments face intense pressures to generate clinical revenue. Funding from the Health Resources and Services Administration (HRSA) to support training has declined sharply.¹ The Robert Wood Johnson Foundation's (RWJF) major career development award for generalist scholars no longer exists. National Institutes of Health (NIH) funding rates have been in free fall, with success rates for new applications, 20% a decade ago, now hovering at 6%–7% in many institutes.² And family medicine's share of those NIH dollars amounts to a tiny sliver, just over 1/1,000th of the pie—few enough R01 grants to be counted on the fingers and toes of a single department chair.^{3,4} Behind the scenes, many NIH insiders' assessments of family medicine research appear to vary across a spectrum from indifference to skepticism to scorn.⁵

Not that it's ever been easy. Almost nothing will bring on a sense of *deja vu* as profound as reading through 20 years of editorials on the state of family medicine research.

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From the Department of Family and Community Medicine, University of Texas Health Science Center at San Antonio.

The template is straightforward: review the compelling case for why we need more of it, lament its unrealized potential, and exhort to do better. Much of the writing, set down by our most distinguished scholars, is eloquent and persuasive. But we are still in the same place, nonetheless.

It is within this challenging environment that we consider Bolon's and Phillips's snapshot of research training in fellowships that accept family physicians (published in this issue of *Family Medicine*).⁶ Overall, the survey methods appear sound and the results credible. They worked hard to identify available fellowship programs and achieved a reasonable response rate of 65%. A surprising finding was that, of the 203 fellowship directors who returned a survey response, 43 characterized their fellowships as focused on "research," "primary care research," or "faculty development-clinical researcher." This is twice as many research programs as are listed in the fellowship directory on the American Academy of Family Physicians (AAFP) Web site.⁷

Looking beneath the surface, however, these characterizations get a bit shaky. In research-focused fellowships, the time allocated to research ranged from 10% to 100%, with a mode of 40%. Here the reader pulls up short: how can a program in which fellows devote just a tenth of their time to research describe itself as research focused? Even programs at the modal value

of 40% would seem to be overstating their case.

Within the research fellowships, the survey of topics taught turns up most of the activities one would look for in research training: learning to ask research questions, choosing a study design and methods, analyzing data, and presenting the results. Even among the non-research fellowships, more than half the programs reported teaching these topics, and nearly all the research fellowships did. But many of these activity headings encompass a wide spectrum of experience. For example, the topic "perform statistical analysis" could consist of an afternoon workshop on the basics of SPSS or four semesters of biostatistics in an MPH program. Or "join an existing research team" could mean work on a small residency-based project or an ongoing R01. As Bolon and Phillips acknowledge, the limited detail leaves the reader with many questions.

Another important question, given the overall findings that research training is perhaps more available than we suspected, is whether family medicine's problem with research is not so much lack of research training as lack of rigorous research training.⁸ To clarify this point, it is important to make explicit something left implicit in Bolon's and Phillips's analysis: research training in family medicine has two purposes, leading to two different career paths. The first purpose is to create clinician-scholars

who are literate enough in research to teach how to critically evaluate papers, to supervise small research and quality improvement projects, and to participate in practice-based research networks (PBRNs). The second purpose is to create clinician-investigators who can successfully and sustainably compete for major research funding.

Different Paths, Different Requirements

Much of the prior editorialists' chagrin, as well as that of Bolon and Phillips in their discussion, focuses on the difficulty of achieving the second purpose—creating clinician-investigators who can obtain major research funding. The formula necessary to achieve it can be concisely summarized: there is no such thing as too much research training. Stated more formally, trainees need the following: (1) coursework in research methodology and statistical analysis, usually to the level of a master's degree, (2) early and continuous involvement in an ongoing research program, with growing responsibility over time, (3) a meaningful relationship with an experienced mentor, preferably one with study section experience and success as an independent investigator, and (4) protected time, in excess of 50%.

Even then, the journey is just beginning in what might be termed "investigator adolescence." Training for clinician-investigators extends well beyond fellowship. Indeed, the average age for clinicians to obtain first-time R01 or equivalent awards is now nearly 44.⁸ Thus, a rigorous research fellowship should ideally lead to a rigorous career development award and then early investigator status with continuous mentoring and careful attention to assembling the team of talented investigators and staff that is necessary to be competitive.

The lengthening path to becoming an independent investigator

is well documented in successive surveys from the RWJF Clinical Scholars program. Even among this carefully chosen and well-trained group, the proportion who were disappointed with their career advancement rose rapidly from the 1970s to the 1990s, nearly doubling from 20% to 39%.¹⁰ An independent review of the scholars' curricula vitae confirmed that the careers of later scholars progressed more slowly than those of their predecessors.⁹

All of which is to say that we in family medicine have historically engaged in much wishful thinking about research careers. We have expected too much from lightweight research training. We have taken promising fellowship graduates, given them an office, and waited for R01s to emerge. We have expected big results in 3 years. We have not applied a sufficiently critical eye to young faculty's progress with grantsmanship and collaborations.

The Need for Clear-eyed Assessments

It is time to be more honest with ourselves and our fellows about what can be expected for a given investment in time and research training. The good news is that we've come a long way in understanding what it takes,¹¹ and pockets of success are beginning to emerge.¹² The bad news is that family medicine is woefully short of senior investigators, and it will likely take another generation of progress to grow our programs enough to support most of our new researchers with training grants and K-awards linked to senior investigator funding.

There are emerging opportunities for such growth. Although it is too soon to know if the new Clinical and Translational Science Awards (CTSAs) can be leveraged broadly into research success, growing support for community engagement can only strengthen family medicine research in one of its core concerns. And the intense interest

in improving the value of health care may generate additional funding for health services research.

As we move forward, we need to frame the big questions about research training and then not flinch as we try to answer them. How many of the research fellowships identified by Bolon and Phillips have the capacity to successfully nurture clinician-investigators? What is a realistic goal for how many "R" trajectory researchers we should be trying to graduate from fellowships each year? What competencies necessary for success in emerging research areas are we failing to teach? Who are our successful mentors? How can we know when more investment in a person or program is unlikely to improve results? And perhaps most important: are we preparing researchers to address the unmet needs of patients and communities? Honest answers to these questions will help increase the odds that the experience of the next generation of family medicine researchers is better than the last.

Correspondence: Address correspondence to Dr Ferrer, University of Texas Health Science Center at San Antonio, Department of Family and Community Medicine, 7703 Floyd Curl Drive, San Antonio, TX 78229-3900. 210-358-3930. Fax: 210-223-6940. FerrerR@uthscsa.edu.

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