

Development of a Successful Scholarly Activity and Research Program for Subspecialty Trainees

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Abstract: Training young physicians to perform research is challenging on many levels. Thus, many internal medicine training programs, including both core and subspecialty programs, struggle with providing a rigorous and successful research experience for their trainees. Here, the authors report on the rationale, design, practical implementation and outcome of a new program that was developed at the University Gastroenterology Fellowship Training Program. Before program inception, 33% of trainees presented original research at scientific meetings or published their work in peer-reviewed journals. After implementation, 100% of trainees accomplished these metrics. Additionally, the proportion of trainees remaining in academic medicine increased from 14% before implementation of the program to 51% after it began. Several elements were viewed to be critically important for the program including the following: communication of expectations and development of a robust program structure, dedicated protected time, a dedicated research curriculum, programmatic support, mentorship and oversight as well as accountability/tracking of accomplishments. The authors conclude that institutions able to adopt these or similar approaches will reap the many rewards of discovery research performed by trainees.

Key Indexing Terms: Academic; Career; Fellowship; Training; Mentor; Accreditation Council for Graduate Medical Education; Original; Discovery; Gastroenterology. [*Am J Med Sci* 2015;350(3):222-227.]

Active participation in scholarship is an Accreditation Council for Graduate Medical Education (ACGME)-mandated requirement for core internal medicine programs and all subspecialty fellowships. The common program requirements state that “The majority of fellows must demonstrate evidence of scholarship conducted during the fellowship...” The ACGME also requires that “The curriculum must advance fellows’ knowledge of the basic principles of scholarship, including how such research is conducted, evaluated, explained to patients and applied to patient care” (www.ACGME.org). It is noteworthy that scholarship takes on a number of different forms, ranging from reading and reviewing the medical literature to primary investigational research.

Beyond the above stated ACGME requirement, further rationale for having a robust and scholarly program is manifold. Perhaps most importantly, participation in scholarship and research bestows on trainees an appreciation and understanding of the process by which new knowledge is generated.¹ Regardless of their ultimate career choice, in the authors’ experience, physicians who have participated in the research are better able to

interpret the significance and limitations of new studies and, in turn, judiciously apply new findings in the care of their patients.

Despite the ACGME scholarship requirement, many internal medicine and internal medicine subspecialty training programs struggle with providing meaningful scholarly research experiences for their trainees and consistently fulfilling the ACGME requirement. The authors’ own experience was that their gastroenterology fellowship training program also suffered from less than satisfactory scholarship and research training. Thus, the authors implemented a newly designed and carefully planned program that changed the environment for scholarship and research and subsequently resulted in dramatic improvements in satisfaction, productivity and interest in academic medicine among trainees. Here, the authors describe this process in hope that it will be helpful to fellows of other programs who wish to enhance their own trainee research experiences.

METHODS

The authors began the effort to improve trainee research with a faculty retreat in which fellowship training, including scholarship and research, was the focus. The history of the University of Texas Southwestern Gastroenterology Fellowship Program was reviewed and noted for there were multiple verbal attempts to encourage fellows to pursue scholarly research projects; however, no formal expectations or achievements had been in place. After these discussions, which included a need for assessment of the training program, it was concluded that there were several specific reasons to foster research among subspecialty trainees (Table 1). The entire faculty and the education team agreed that trainee scholarship and research represented a core mission for the program. It was further agreed that not only was it essential for fellows to be engaged in research, but also that this endeavor would also require further support and focus. Discussion about the principles underlying a successful subspecialty scholarship and research program led to the development of 6 basic core elements on which the program would be based (Table 2). The core elements agreed on and implemented were as follows:

Clear Expectations

Expectations about what scholarly activities would be appropriate for fellows to participate in must be unambiguously

TABLE 1. Reasons to pursue research in a fellowship training program

- Engenders an environment of curiosity and discovery
 - Helps launch trainees into academic careers
 - Creates new challenges for fellows
 - Helps faculty develop mentoring skills
 - Supports publication among fellows and faculty
 - Enhances the reputation of the training program
 - Scholarly activity is an ACGME requirement
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ACGME, Accreditation Council for Graduate Medical Education.

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TABLE 2. Elements of a successful research program for trainees

Clearly defined expectations
Fellowship Research Handbook
What is/is not research
Timeline and annual benchmarks
Protected time provided
Minimum research blocks for 3-year fellowship
1st year: 1 month
2nd year: 3 month
3rd year: 2 month
Oversight and mentorship
Fellowship research committee
Reviews and approves projects in the first 6 months of fellowship
Annual meeting for mentors
Feedback on fellows' performance shared
Support
Dedicated statistical support
Specific dedicated statistician or a stipend per fellow for support
Dedicated research area
Computer, fax, clinical research materials
Faculty provide list of potential projects each year
Travel support for all research accepted to national meetings
Educational curriculum
How to select an excellent mentor
How to select an excellent project
How to get your work published
Statistics for the MD trainee
Database searches
Use of endnote
IRB training (protection of human subjects, research HIPAA, good clinical practices)
Tracking of accomplishments and accountability
Must complete project to be deemed competent at scholarship
Clinical elective time expected to be used for research if project not at annual benchmarks
Additional research time provided if desired
Presentation of work in an annual grand rounds at the end of the final year
Recognition of accomplishment at divisional conferences and annual graduation banquet

defined and disseminated to both fellows and faculty. The expectations for the authors' program were agreed on to include original research, preferably hypothesis-driven discovery research (Table 3). The authors' expectations were that neither data collection without an effort to publish nor preparation of case reports would count toward their research requirement. The authors provided expectations and metrics in writing and orally at the beginning of each academic year. The authors also developed a Fellowship Research Handbook that was provided in hard copy to new fellows at orientation; this was also posted on the training program website. It was also recognized and acknowledged that although the ACGME does not require every single trainee to publish or present their work, having a standard requirement for all trainees without exceptions would be much easier to enforce and thus the expectation was that all fellows participated as above. To aid with pacing

TABLE 3. Projects that may satisfy a program's scholarly research requirement^a

Type of project	Yes	No
Prospective trial		
Retrospective original research		
Meta-analysis		
Systematic review		
Opinion article		
Book chapter		
Letter to the editor		
Case report		
Other		

^a Potential examples of scholarly research activities are shown. Specific expectations vary from institution to institution. For the UTSW program, a prospective trial, retrospective original research study or meta-analysis fulfilled the program's research expectation.

of each research project (for both fellows and faculty), the authors developed a timeline with quarterly and annual benchmarks for each of the 3 years of training (Figure 1), which was also published in the Fellowship Research Handbook.

Protected Time

It was recognized that although some trainees may be capable of completing full research projects in addition to carrying a full clinical load, the authors believed that this could not be reasonably expected for all trainees. Thus, the authors developed expectations for research time. Furthermore, given the prediction that fellows would take on different types of projects, it was recognized that flexibility would be important. Therefore, the authors decided that the best format would be to provide small blocks of time during each year of training while the trainee would focus on their project. Trainees were thus provided 1 month of research time in the 1st year, 3 months in the 2nd year and 2 months in the 3rd year for a minimum total of 6-month protected research time.

Mentorship and Oversight

For trainees to be able to navigate and complete their research projects, a fundamental requirement is support in the form of mentorship. An effective mentor must provide meaningful and timely feedback, encouragement, technical assistance and, in some situations, financial support.² Mentors themselves, especially those early in their career, also need mentoring.³ Thus, the authors agreed that junior faculty members could serve as effective mentors for trainees only given a centralized source of support for both the trainee and the faculty mentor. Therefore, to better oversee progress and mentors input into projects, the authors established a formal fellowship research committee (FRC) consisting of 6 faculty members with expertise in different types of research (clinical and bench research, including different areas in each). This committee met monthly to provide oversight by discussing and reviewing projects with fellows and monitoring their progress. First-year trainees met with the committee during their 1st research month to review their proposed research project. This 1st meeting with the committee also served to ensure that the project would meet the authors' program's requirements and further ensured that a nonbiased group agreed that the project was feasible to complete within the allotted time. Faculty participation on the FRC was recognized by the division chief and department chairman

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