Avoiding Professional Extinction

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AT some time during our medical careers, all of us have uncovered a fossilized physician. This is an individual who has ceased to learn. He never reads an original journal article and does as little as required to obtain his mandated continuing medical education credits. When asked why he does something in the operating room, he will answer "because that's how I do it." He does his cases, gets paid, and goes home. Medical specialties can fossilize as well. Specialties, and the physicians who practice those specialties, are judged not just by their clinical skills but by their individual and collective intellectual accomplishments and capabilities. The ability and the desire to contribute to the creation and dissemination of new knowledge are critical to our ability to continue to improve the care of our patients and to the future of a profession. Like the physician above, if a profession ceases to create, if too few of its members see the value in such creation, it fossilizes. And remember, fossils are most commonly the remains of extinct species.

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Some have suggested that the creative output of our specialty—at least in the United States—is declining. We are not fossilized yet, but we clearly have a major problem. And this problem starts with the youngest members of our specialty, our residents. Since Ralph Waters (1883–1979) first created a department of anesthesia, we have been training residents to be excellent clinicians. Research "opportunities" were available in some departments, but the burden of clinical training, the changing composition of academic departments, and availability of the financial resources has resulted in far too few of our trainees gaining any substantial understanding of the process (or being exposed to its enormous rewards). Not surprisingly, few choose to pursue academic careers. However, in this issue of ANESTHESIOLOGY, Sakai *et al.*[1] describe one department's efforts to change this situation. Beginning in 2006, the department at the University of Pittsburgh started a formal program to engage their residents—and their faculty—in the creative endeavor. The importance of research was made known to resident interviewees. The department began a program of introducing research methodology into the curriculum (including research-focused, problem-based learning discussions), created a Director of Resident Research, and encouraged residents to devote up to 6 months of their CA3 to research activities (sometimes supported by the National Institutes of Health training grant). Faculty mentorship was organized and encouraged—and even included in the faculty financial incentive plan.

The results are striking. Although one may disagree with their calculation of "scholarly activities points" or the meaning of an increase in total scholarly activities points, there has been a striking rise in the number of resident-authored abstracts, peer-reviewed articles, and book chapters. Of equal importance (in the opinion of these authors), total department output increased and the number of faculty research mentors increased by roughly eight-fold, in spite of a relatively stable faculty size. However, simply tracking changes over time can be misleading—many factors OTHER than the new resident program may be operating. By looking at residents who applied to Pitt and who would have matched but chose to go elsewhere (their "rank-to-match" group), they created a group of individuals presumably comparable with Pitt residents but who did not benefit from the same programs developed at Pitt. Again, productivity by Pittsburgh trainees was better than for the rank-to-match controls. Like looking at changes overtime, this approach has its limitations. For example, a key question is whether the residents who chose to match at Pitt are different than those who matched elsewhere, that is, are more focused on research before they start. Nevertheless, the two different comparisons (over time and rank-to-match) do suggest that their new research training program is bearing fruit, not just for their residents but for the department as a whole.

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Two added comments are warranted. The first involves the incentivization of research mentorship and productivity on the part of the faculty are in order. It is possible that such incentives played a role in encouraging resident–faculty interactions and publications. Are incentives the best—or a necessary—way to achieve a desired outcome? Incentives clearly provide a focus for attention. They can also have unintended consequences (*e.g.*, a higher volume of bad articles?). But do faculty actually respond to the monetary component alone or do they, perhaps, respond to the importance that department leadership is now putting on research mentorship, as evidenced by the program as a whole? There is no way to know, but our best guess is that the latter may be as important than the former.

The second relates to the "measured outcome." This was a relatively short-term intervention. Publications and meetings—and mentoring interactions—were their outcome. But is this what we are really interested in? Or is the real outcome of interest the development of a growing cadre of investigatively focused academic anesthesiologists? The latter is the obvious answer. However, it is far far too early to know what the long-term payoff of the program will be. Will more of their graduating residents choose academic careers? Will they continue to do research? Will they become the academic leaders of the future? We cannot know at this point—but the authors' intermediate outcome is certainly promising. And it is a near-certainty that their graduates will be better prepared to understand the scientific literature. Perhaps most importantly, they may be better prepared to identify and resolve key patient care-related problems within their own practices. In other words, they will be better physicians.

Can every residency training program replicate what was done at Pittsburgh? We could argue that they CAN at least to some degree; the greater question is whether they are willing to try. Successfully improving the academic culture of a department requires GLOBAL changes within that department. A few lectures to the residents will not succeed. Telling new applicants that "we're interested in research" will not succeed. Just mandating some kind of "scholarly project" will not succeed. Telling the faculty that they should mentor residents will not succeed—even if a few hundred dollars are attached. And one faculty member alone—even a Department Chair—cannot make this happen if he or she is surrounded by others who do not share the vision. The department as a whole needs to make a decision that this is the direction in which it wishes to go. The steps described by Sakai *et al.* are simply one possible way to implement that decision.

Competing Interests

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Reference

1. Sakai T, Emerick TD, Metro DG, Patel RM, Hirsch SC, Winger DG, Xu Y: Facilitation of resident scholarly activity: Strategy and outcome analyses using historical resident cohorts and a rank-to-match population. Anesthesiology 2014; 120: 111–9