

LEE E. FARR LECTURE

Research on and in Medical Education

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Dr. George Lister of the University of Texas Southwestern Medical Center delivered the Lee E. Farr Lecture on Student Research Day on May 9, 2011. This day focused on the dissertation work of Yale School of Medicine MD students, whose research opportunities for prospective physicians were recently examined and critiqued by Yale's Committee to Promote Student Interest in Careers as Physician Scientists. Lister's talk served to highlight the importance of communication between the laboratory and the clinic in optimizing diagnostics and treatments, effectively affirming the validity of the Committee's objectives.

At times, a disconnect exists between the clinic and the laboratory bench. Clinicians grasp the symptoms and outcomes of disease, while researchers are more concerned with the basic science of the mechanisms. These narrow foci may lead to cookbook medicine on the one hand and non-clinically relevant research on the other. Mutual understanding and/or collaboration between clinicians and researchers is often beneficial, encouraging the devel-

opment of more rational diagnostic techniques and therapies.

To encourage overlap between the clinical and research realms, the Committee to Promote Student Interest in Careers as Physician Scientists was founded at Yale University in February 2010, based on the belief that "scientific inquiry is a central part of medical education and not a separate enterprise" [1]. While 12 percent of Yale medical students are enrolled in the

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Keywords: Farr Lecture, physician scientists, research thesis, sudden infant death syndrome (SIDS), Student Research Day

MD-PhD program and a fifth research year and research residencies are available to MD students, the Committee ascribes continuing disinterest in research to the long training period, debt, busy student and residency schedules, and a dearth of dually clinic- and research-oriented faculty members [1]. This last element may affect admissions as well as advising, both of which are critical to recruiting prospective physician scientists. To address such weaknesses in Yale's medical program, the Committee has recommended more guaranteed research time during the four years of medical school and higher MD-PhD student enrollment, as well as additional research-related courses, advising, and residencies [1].

In its September 2010 Report to the Dean of the Yale School of Medicine, beyond sharing its research on and critique of research in medical education, the Committee also recognized a current strength of the Yale MD program: the required research thesis, an unparalleled requisite instituted in 1839 [2]. Sixty percent of students perform clinical studies and 30 to 35 percent pursue laboratory work to meet the requirement [1], culminating in a written dissertation as well as a poster session and oral presentations on Student Research Day. The capstone of this event is the annual Farr Lecture, honoring the late Dr. Lee E. Farr, who passed away in 1997 after a lifetime of numerous clinical and research achievements. A 1933 graduate of Yale School of Medicine, Farr developed a therapy for pediatric nephrosis, constructed the first medical nuclear reactor, served as a naval physician, researched the health effects of the atomic bomb, and authored more than 200 papers on nuclear medicine and related topics [3]. The Farr Lectureship is a tribute to the original scientific research of clinicians like its namesake, established upon Farr's death and partly funded by memorial contributions [3]. Recent notable speakers include Dr. Paul Greengard, a Nobel Prize-winning researcher in neuronal synaptic transmission; Dr. Jeffrey Friedman, the Howard Hughes Medical Investigator who discovered and continues to research leptin; Dr. Stuart

Orkin, another Howard Hughes Medical Investigator, who has elucidated the role of stem cells in cancer and blood pathologies; and Dr. Lewis Landsberg, a specialist in hypertension and obesity who increased outside research funding by 100 percent and research facilities by more than 70 percent as Dean of the Northwestern University Feinberg School of Medicine [4].

At the 24th annual Student Research Day on May 9, 2011, Dr. George Lister of the University of Texas Southwestern Medical Center delivered the Farr Lecture to Yale's prospective physician scientists. (A transcript of the lecture is included in this issue of the *Yale Journal of Biology and Medicine*, along with abstracts from the student research theses that were awarded honors on the same day.) The talk was focused on Lister's research on the complicated "plague" [5] of sudden infant death syndrome (SIDS), which was previously labeled as having a simple cause and solution. In reality, he found that seven clinicians interviewed disagreed on how to diagnose SIDS, relying on "educated guesses" [5] rather than on a standardized, research-proven strategy for analyzing breath traces. Lister's studies helped to reveal the flaws in contemporary clinical techniques for diagnosing SIDS as well as in SIDS countermeasures, demonstrating that communication between researchers and clinical practitioners is critical for developing rational solutions to medical problems.

Lister concluded his talk by encouraging the MD students to develop approaches to clinical problems on their own before asking for help. He added that as physicians, they should never ignore small details that seem rare or unrelated during diagnosis and should set clear career goals before deciding upon approaches to those goals. In essence, Lister recommended that physicians assume the traits of scientists, who are typically detail-oriented and hypothesis-driven, in the clinic. He thus affirmed the Committee's assertion that "scientific inquiry" [1] is central to medicine, not only during training, but also in practice. Additionally, through his lecture, Lister embodied the physician-sci-

entist mentor that the Committee's research indicates is lacking in Yale's medical program. This year's Farr Lecture may thus be considered as a tangible step toward bridging the divide between the clinic and the bench.

REFERENCES

1. Committee to Promote Student Interest in Careers as Physician Scientists. Report to the Dean of the Yale University School of Medicine. 2010 Sept 19.
2. Yale Office of Public Affairs and Communications. Nobel Laureate to Present Farr Lecture at Event Showcasing Student Research. Yale Bulletin [Internet]. 2002 Apr 26 [cited 2011 Jul 30]. Available from: <http://www.yale.edu/opa/arc-ybc/v30.n27/story16.html>.
3. Paid Notice: Deaths: Farr, Dr. Lee Edward. The New York Times. 1997 Jul 19.
4. Yale Office of Public Affairs and Communications. Day-Long Event Features Medical Students' Research and a Lecture by Expert on Obesity. Yale Bulletin [Internet]. 2010 May 7 [cited 2011 Jul 30]. Available from: <http://opac.yale.edu/news/article.aspx?id=7530>.
5. Lister G. Sowing the Seeds for a Career in Medicine: Reflections and Projections. Yale J Biol Med. 2011;84(3):257-68.