

MEDICINE SCIENCE AND DREAMS: THE MAKING OF PHYSICIAN-SCIENTISTS

Edited by David A. Schwartz
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THE PRACTICE OF MEDICINE IS CONSTANTLY CHANGING. THE technologic and scientific advances made in the last decade have produced a fundamental change in the way in which physicians view even common diseases and disorders. Physicians may soon have the knowledge and tools to be able to carefully direct a personalized treatment approach based on an individual's underlying genetic makeup and environmental risk factors. Many of these advances were brought to the bedside by physician-scientists, ie, clinicians with specialized training who devote a substantial percentage of their professional effort to research in basic science, clinical and translational science, and health services and outcomes.

It has been more than 30 years since James Wyngaarden first sounded the alarm that physician-scientists were becoming an "endangered species."¹ The situation has not improved. The number of young physician-scientists beginning research careers continues to decline.^{2,3} Moreover, given the current difficult funding climate, increasing medical education debt, and greater pressures to increase clinical service time, many promising physician-scientists are leaving research careers altogether.² However, future advances in medicine are critically dependent on a steady pipeline of physicians entering academia and, more specifically, beginning careers in biomedical research.

In this context, David Schwartz has edited a wonderful collection of personal stories written by 20 prominent and highly successful physician-scientists. Each author clearly has a story to tell about how and why he or she chose this difficult career path, and each offers his or her perspective on what it takes to be a successful physician-scientist.

The overarching message of this book is clear. The path to success as a physician-scientist is not easy. Success requires a combination of passion, curiosity, dedication, and commitment, sometimes to the extreme. For example, one successful physician-scientist tells the story of how she had her husband drop her off at the laboratory on the way home from the hospital after giving birth to her son. However, she also is clear on one important piece of advice: "Do not sacrifice family for career." Success also requires the right environment and the right mentorship. Each of these physician-scientists emphatically states that a good mentor was critical to his or her success. Each credited the helpful support and advice of a mentor at almost every major decision point in his or her career. Perhaps most importantly, success in research is dependent on being able to learn from mistakes and to keep pushing forward despite the inevitable failures along the way. For example, one physician-scientist stated

that "[p]rogress is rarely steady. Success is anything but predictable. Most of us have spent many hours staring into the abyss of failure wondering if anything would ever work or if any result would ever tell us what to do next." Every author in this book told of countless failures he or she had experienced. None of these individuals were discouraged by failure.

It is a rare gift to benefit from the collective wisdom of so many individuals at the same time. These physician-scientists have provided readers with helpful advice and thoughtful encouragement. The interesting and thought-provoking essays in *Medicine Science and Dreams* can be read and digested one at a time or all at once in sequence. They provide lessons to be learned by any physician-scientist, whether just starting out or in the middle of a research career. Some lessons will be particularly helpful for women physician-scientists. Regardless of the reader's background—industry or academia, bench or bedside, patient- or population-focused—he or she will find something of value in this collection of stories. Schwartz has done readers a great service and has added to the legacy of these prominent and successful physician-scientists.

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1. Wyngaarden JB. The clinical investigator as an endangered species. *N Engl J Med*. 1979;301(23):1254-1259.

2. Schafer AI. The vanishing physician-scientist? *Transl Res*. 2010;155(1):1-2.

3. Weinert CR, Billings J, Ryan R, Ingbar DH. Academic and career development of pulmonary and critical care physician-scientists. *Am J Respir Crit Care Med*. 2006;173(1):23-31.

THE PHYSICIAN SCIENTIST'S CAREER GUIDE

By Mark J. Eisenberg
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AS A SENIOR PHYSICIAN-SCIENTIST, HAD I KNOWN AT THE BEGINNING of my career what I know now, my path would definitely have been easier. As I look back, even at those stages through which I sailed relatively unscathed (eg, the acquisition of tenure), it would have been nice to have known where Scylla and Charybdis lay and, even more so, that they even existed.

Mark J. Eisenberg, an accomplished physician-scientist, lays it out for all physicians who fancy themselves to be clinical scientists. Although the guide is directed toward the young physician just starting out in a research career, it



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