

The Heroic Odyssey of Graduate Medical Education

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It's 1895 and you are a house officer at the storied Johns Hopkins Hospital. You share cramped and dilapidated living quarters with 3 other interns. The food is awful and the paint is peeling. It is your third night on call this week, and you have not left the hospital in nearly a month. You remind yourself that, as rough as these conditions are, you feel blessed by the excellent teaching you are receiving from the staff physicians, and know that your counterparts at the hospital across town have it a lot worse. You grab a short nap after taking your seventh admission of the night on the charity ward, a 38-year-old woman with shortness of breath. Your careful percussion of her chest wall shows enlargement of her heart border, and the auscultative skills you learned from the resident, a year ahead of you in his training, reveals a subtle diastolic murmur. You and your cohort of single, white male interns are looking forward to rounding later this morning with Dr William Osler.

Fast forward to 2014. You are well rested after your obligatory 10 hours off, but are worried about your sick 8-year-old, who is home from school today with your spouse. Payments on your student loans, which amount to just shy of \$200,000, started 6 months ago. You take sign-out on 24 patients from the night float resident, 10 of whom you will need to discharge later today but none of whom you are familiar with. Your clinical decisions, and the fate of your new patients, rely on the input from countless consultants who are nowhere in sight. Nor are their consult notes, which will not be completed and accessible in the electronic health record until early this afternoon. You have little faith in your attending helping you complete your workload. She is notoriously late to rounds and is usually grumpy about the latest mandate from hospital administration to shorten her patients' lengths of stay in the hospital.

The dichotomous picture of resident life described above is a slightly exaggerated version of that portrayed by Kenneth Ludmerer in his latest book, *Let Me Heal: The Opportunity to Preserve Excellence in American Medicine*. He has masterfully assembled a compendium of personal narratives, reflections, and scholarly works from hundreds of original sources that provide a living history of graduate

medical education (GME) over the past 140 years—an odyssey replete with struggle, controversy, and change, both evolutionary and cataclysmic. He offers his keen reflections on the current and future state of GME, with strategies on how to preserve and regain excellence in medical training.

At its inception, residency training fulfilled a variety of needs, depending on the hospital and the trainee. It often existed in an apprenticeship model, providing a bridge to clinical practice for individual trainees and a cheap labor force for hospitals. In the late 19th century, Johns Hopkins Hospital, under the influence of Sir William Osler and others, created the modern model of residency with which we are familiar today. Rather than primarily offering supplemental training necessary for the independent practice of medicine, house officers at Johns Hopkins, Peter Bent Brigham Hospital, Massachusetts General Hospital, and other facilities comprised a hand-selected group of the best graduates from an elite group of medical schools. Newly graduated physicians at top schools were often recruited to train at their own affiliated hospitals, as the quality of their medical education was viewed as superior to the education of other candidates from lesser schools. Institutions offered mentorship, guidance, and one-on-one training from nationally recognized experts in modern medicine. The overarching goal was to provide an environment in which residents could engage in scholarship, reflection, and in-depth learning. It was in essence a training camp for future leaders in health care, and not solely for the acquisition of specific skills and knowledge.

A true community of healers was the result. Residents lived and worked in an invigorating atmosphere of inquiry, scholarship, and shared purpose, and were likened to monks in a monastery. Indeed, the description of intellectual life at these elite hospitals seems idyllic and almost too good to be true, and Ludmerer warns against romanticizing the learning environments of the past. The concept of work-life balance as we know it today did not exist. Instead, scientific rigor, thoroughness, and self-sacrifice ruled the day. Perfectionism and delayed gratification were the ethics code. Interns often did not see the outside of the hospital for weeks on end. House officers were forbidden to marry or begin families until their training was completed.

Most of the work of direct patient care was provided by interns, with long hours and high degrees of responsibility from the beginning of their training. Residents in their second year and beyond enjoyed only slightly more freedom as they assumed greater leadership and teaching roles.

Stark as the differences may be between the daily lives of past house officers and present-day residents, many of the hardships, challenges, and systemic flaws in how we train residents remain the same today. Now, as then, residents make up much of the health care workforce in training hospitals. The perpetual tension between service and education still exists, and many feel residents continue to be exploited for their labor by the health care system. The question of whether residents are in fact students, employees, or both remains unanswered. The debate over the role of generalists and specialists in the provision of care endures, and the rise of specialty care that began in the 1950s continues unabated. How much autonomy should junior trainees be given, and how fast? Who should oversee their care? Should patients be exposed to potential risks in the name of education, and if not, what can be done to assure both patient safety and robust resident training?

To answer these and other questions, Ludmerer takes us on an absorbing journey from the early beginnings of GME, through the 20th century and its subsequent reforms and upheaval, to the rapidly changing system we know today. The scientific, social, and economic forces driving this transformation are well described. For example, the rapidly expanding body of scientific and medical knowledge in the late 19th and early 20th centuries meant that new and effective medical treatments became available. Patients were now being hospitalized and treated for more complex and heretofore untreatable conditions. The subsequent debate over the definition of a specialist led to the advent of national specialty boards, which Ludmerer describes as “the second great reform of medical education” after the Flexner report in 1910. This and other forces resulted in specialty boards and other national organizations assuming greater influence over graduate medical training. Rather than being the domain of the medical school, GME was now firmly entrenched within the clinical infrastructure of the hospital. This led to the standardization (and, in many cases, extension) of the length of graduate medical training.

In my view Ludmerer is an optimist, yet he is skeptical about many of the reforms we are familiar with today. He carefully dissects the forces leading to the duty hour restrictions currently imposed on GME programs and their trainees. For example, the recommendations stemming

from the Libby Zion case had far more to do with the need for greater resident supervision by faculty than they did with resident fatigue and duty hours. (The residents involved in this notorious case, he points out, had in fact just returned from vacation and were presumably well rested!) Restrictive duty hour rules, he proposes, have led to an increased number of handoffs and a resultant loss of continuity of care and attention to detail that threatens to increase the frequency of clinical mistakes made by residents rather than reduce it.

With an eye to the future, Ludmerer correctly asserts that the fate of residents and the training they receive are dependent on the fate of our health care delivery system. That fate is far from secure. Ludmerer shines a light on the economic forces that threaten the quality of GME. The advent of diagnosis-related groups and the growing emphasis on throughput, clinical productivity, and cost containment have resulted in a system that diminishes the value of education over other missions. Such an arrangement helps marginalize residents within a system they cannot control, and it threatens to reduce residency to vocational training. He distinguishes between “fast medicine”—shorter lengths of stay, rapid turnover, quick decision making, and expeditious care when needed—and “slow medicine”—delivered at the bedside at a human pace allowing physicians to bond with their patients in rewarding and salutary relationships.

Ludmerer offers a clear road map for managing the current and future challenges to GME. He unapologetically calls for revision of the current duty hour structure—particularly the “24 plus 4” model that forces residents to abruptly leave the hospital—as out of synch with patient needs. Given that there is no demonstrated link between physician fatigue and medical errors, he posits that flexibility around duty hours would align the clinical requirements of patient care with the educational goals of residents and fellows, without sacrificing safety or the 80-hour workweek. Limiting the number of patients assigned to residents, he suggests, would allow a return to a more deliberative, reflective, and thorough consideration of patients’ presenting complaints and their context. His prescription calls for innovative care team models and more support staff that could help unburden residents from the tasks that do not pertain to their level of education, or the skills needed for future practice. Improved models for supervision by senior faculty, including department chairs and other institutional leaders, would recapture the added dimension of professional identity development that GME was intended to provide. Although Ludmerer remains a strong proponent of safe and effective care delivery, he suggests that the surest

guarantee of achieving the quality of clinical outcomes is a knowledgeable, skillful, and well-trained physician workforce. Another critical aspect of quality care is the stewardship of resources, manifested by the thoughtful use of diagnostic tests and procedures, and, just as important, knowing when *not* to perform a test or procedure. Finally, he suggests that residents be included in helping to define and enact remedies to the challenges that face them during their training.

Let Me Heal provides an invaluable primer on the foundations, history, and advancement of GME in the

United States. Ludmerer's comprehensive and readable exposition, supported by innumerable references and footnotes, should be required reading for all program and institutional leaders in GME. We are clearly in the midst of an evolution—some would say a revolution—in the way we educate and train our physicians. Ludmerer's book helps put the current upheaval in perspective.

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