Learning by Doing: Preserving the Quality of Graduate Medical Education in an Era of Work Hour Restrictions

Michael Lee Jr, MD, JD

"When the attending's mouth is moving, your ears should be listening," my attending said, sharply. We looked up, temporarily, from our computers. My telephone rang, so I pressed *ignore*. It rang again, so I hid it in my pocket and tried to cover up the sound. "I'm trying to teach you here," she said. "Your job is not to enter retroactive restraint orders or to enter a discharge summary or to talk to care management. You are in residency to learn medicine."

She was right, of course; most of our work was bureaucratic and not particularly educational. Dutifully, I put my tasks on hold: answering the telephones, entering orders for decisions that somebody else had made, writing notes, and preparing home care requisitions. I remained distracted, since my list of tasks was literally ringing in my ears and vibrating in my pocket, but at least I looked attentive.

That instruction to pay attention, and the dialogue among many of my attendings, reflects the debate that continues to play out in the medical literature and in the popular media: do work hour restrictions compromise residents' and fellows' education?[1] Program directors, other faculty, and residents themselves often worry that work hour restrictions cost trainees the clinical experience they need to learn.[1–3] Some of this may just be generational grousing about the "lifestyle" choices made by younger physicians,[4] but much of it seems legitimate based on my experience as a pediatric resident and now as a fellow.

However, as I spend my days scrambling, trying to discharge as many patients as quickly as I can, I wonder whether it's really the *quantity* of hours that is compromising my education. In a 2012 analysis,[5] internal medicine interns spent 64% of their working hours on indirect patient care—writing notes, entering orders, and preparing handoffs—compared with 42% in 1988.[6] Only 12% of internal medicine interns' time is spent providing direct patient care, with only 15% spent in educational activities that include participating in rounds, while 40% of their day is spent in front of a computer.[5] Meanwhile, admission rates at major teaching hospitals increased 46% from 1990 to 2010, while the number of interns grew by only 13%.[3] Based on time-motion studies, this increase has not been entirely offset by physician assistants and nurse practitioners practicing in academic medical centers.[7] These statistics resonate deeply with my experience.

Many of the faculty I have encountered worry that my generation is not learning medicine deeply: "You learn by doing," I am often told. I do know, however, that commandeer 3 computers will allow me to use whichever one is not lagging and thus write notes more quickly. I know I have to slowly read aloud a patient's identification number when using an iPad to call for a translator, and I also know how to call via audio when the video is not working or via portable telephone when the audio is not working or by dialing a remote number when the portable telephone is not working. I have learned that calling a consult is faster than performing a thorough examination. I have discovered exactly where to look to find a patient's insurance information so that I can answer the behavioral health specialist's questions about whether a patient *really* has Medicaid. I have memorized every technician's telephone number because I often have to call 4 or 5 of them to find one who is free to help hold a patient or obtain vital signs. It's now an ingrained habit to change all my medication orders away from their defaults because our emergency department pharmacy can't process any medication frequency other than "one time." These are the things I am learning, because these are the things I am doing.

If it is really true that my education is suffering because I no longer work enough hours, then perhaps the solution is to reduce the time I spend on noneducational activities. One option is to simply have me see fewer patients, and indeed, some programs have seen improved patient outcomes, resident satisfaction, and trainee time spent on education after moving more patients onto nonresident services.[3] This seems, however, an oblique solution to the problem of excessive physician paperwork. Rather than employing additional physicians, it would be more direct for academic medical

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centers to hire administrative help for the clerical work, from early stage documentation to telephone calls to gathering supplies, which comprises so much of a modern residency. Ideally, clerical staff would relieve almost every burden that didn't require an actual physician's license. For example, one pioneering organization employs clinical informatics specialists—a combination of scribes, information organizers, and data analysts—who add significant economic value and markedly improve physician satisfaction[8] at a fraction of the cost of a resident.[8]

My suspicion is that clerical assistance, by enabling residents and other physicians to focus on the practice of medicine, would increase productivity and offset its own costs. Regardless, the purpose of a residency is not to subsidize the administrative costs of a hospital. Medicare spends more than $11 billion each year subsidizing residencies through direct and indirect funding,[9,10] and the Centers for Medicare & Medicaid Services (Baltimore, MD) can and should insist that some of that be spent on clinical administrative support to protect the educational mission of that funding. Alternatively, the Accreditation Council for Graduate Medical Education, whose role is to assess the clinical learning environment and accredit residency programs, should explore additional strategies to protect the time that residents and fellows spend in direct patient care and educational activities.

Instead, I have seen residents plugging international health records into online translation software, 1 word at a time. My co-interns and I learned it was faster to make 2 telephone calls at once, holding one device against each ear, assuming we would be kept on hold waiting for overworked operators. Furthermore, my co-fellows have resigned themselves to the fact that finishing their notes takes an extra 4 hours after an overnight emergency department shift. The issue is not the quantity of hours we are spending in the hospital—it is the quality of those hours. If the old aphorism that we learn by doing is true, then the things we spend our time doing will be the things we end up learning.

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Michael Lee Jr, MD, JD, has completed his clinical fellowship with the Division of Emergency Medicine, Boston Children's Hospital.

Corresponding author: Michael Lee Jr, MD, JD, 2750 Gallows Road 238, Vienna, VA 22180, 925.708.6872, mike.lee@alumni.duke.edu

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