Can Residents Learn to Be Good Doctors without Harming Patients?

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One of Dr. Richard Vilter's former residents mustered his courage, approached Dr. Vilter and asked "Dr. Vilter, you are such a marvelous clinician. To what do you attribute your success?" Vilter replied "Good judgment." The questioner thought for a moment and, not completely satisfied with the response, asked, "But Dr. Vilter, to what do you attribute your good judgment?" Vilter replied: "Experience." Still not satisfied, the questioner pursued it one step further. "But Dr. Vilter, how does one gain experience?" Vilter's response: "Bad judgment."¹

We all make mistakes. As Dr. Vilter ultimately confesses, that is how we learn. Likewise, the more inexperienced we are, the more opportunities there are to make mistakes. Therefore, it should not be a surprise that Phillips and Barker's study "A July Spike in Fatal Medication Errors: A Possible Effect of New Medical Residents" found an association between new learners and fatal outcomes due to medication errors.² This report comes on the heels of another study by Haller et al. showing a link between undesirable events among anesthesia patients and the beginning of the academic year.³ The question is, are these mistakes avoidable or are they integral to experiential learning? Must some of our patients inevitably pay the tuition for our "experience" by suffering the consequences of our "bad judgment?"

Phillips calls for increased supervision of new learners to prevent mistakes. Although it is hard to argue against adequate supervision of new learners, there is as yet no clear evidence that simply increasing supervision from current levels will improve patient outcomes. In addition, increased supervision may carry educational risks. To really learn, as Vilter points out, we need autonomy, and autonomy carries the risk of making mistakes on real patients. It is not sufficient to study medicine from books. As Sir William Osler noted, "he who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all." Supervision compromises that autonomy. The best example may be the night float rotation, when residents are left to their own devices, making decisions about critically ill

patients with no more supervision than a groggy attending at the other end of the telephone. Residents claim this autonomy fosters a positive learning experience, and residency curricula often tout the advantages of autonomous decision making during a night float rotation. In fact, many of our greatest clinicians and teachers, chairs of the departments of medicine, trained in a system where "morning report" comprised the only form of attending supervision. Clearly, this system produced great physicians, but was it good for patients?

The answer is a qualified "yes." While at first blush autonomy for the good of education appears to compete with supervision for the benefit of patients, a more critical appraisal reveals that both supervision and autonomy benefit patients:

Supervision assures the quality of *present* patient care.

Autonomy ensures the *future* of quality patient care.

But must current patients sacrifice for the good of future patients? Or can we successfully train new physicians without harming people? We believe that we can, but to do so will require a change in our expectations. The situation may be analogous to our approach to blood stream infections. In the past, conventional wisdom taught that these deadly infections were an inevitable consequence of intravenous lines, until we discovered through the patient safety movement that blood stream infections could be almost completely eliminated through careful application of known sterile techniques. We must expect no less from our educational system.

To meet this challenge, however, requires developing new ways to supervise learners. Our present concept of supervision evolved haphazardly in response to government billing requirements, not by educational design. In 1996, changes to Medicare's Teaching Physician Rule predicated payment on the teaching physician's being present during the key portion of any service or procedure. Attending physicians immediately insinuated themselves into the resident-patient relationship without considering the consequences for resident education. Residents, at least, noted that the intrusion had a detrimental effect on learning.⁴ After all, if attending physicians examine all the patients, formulate the treatment plans and, most importantly, write the notes, where is the space for residents to practice independent thought and accept responsibility?

The solution is personalized supervision based on demonstrated competency. Kennedy et al. describe a framework for multiple types of supervision ranging from "hands-on" to "back-stage" (removed) depending on the needs of the learner and the patient.⁵ Constructing such a system is complicated; it requires thought, creativity and effort. However, we can

imagine a model where “new learners,” as Phillips calls them, have close direct observation of specific skills until they have demonstrated competency. For example, once a new learner consistently demonstrates competency in order entry (i.e., looking up drug interactions and checking dosages and side effects), he or she no longer requires direct observation for that skill. Each of these behaviors or skills could be considered milestones. Once a learner passes a group of necessary milestones (e.g., order entry, data gathering, analytical skills in simple cases, the ability to manage unstable patients and calling for help when appropriate), he or she could be deemed competent at basic patient care and ready for graduation to the next level of training: more decision-making autonomy and a different degree of attending supervision.

This competency-based progression has a number of advantages over our current method of supervision and evaluation. First, it makes the fundamental skills explicit for both learners and supervisors. Second, it evaluates learners against specific criteria rather than against their peers. Third, it encourages frequent feedback around specific skills as learners try to gain competency. Finally, it allows for individualized progression based on competency rather than on calendar dates. It also presents a number of related challenges. To assess competency, we must decide on the milestones. What is it, exactly, that every physician needs to know, and how is that demonstrated? Then we must invest substantial effort into observing and evaluating the learners’ performance. Who will do the assessing? How will the assessment take place? How many times must a skill be competently demonstrated to imply mastery? These questions are not trivial. As a society, we have empowered state medical boards and specialty societies to measure physician competence. These in turn have generally relied on written exams or reports of egregious behavior to identify those who are not competent. In residency training, we must do better.

Assessing competency represents the greatest challenge for this generation of educators. The American Board of Internal Medicine and the American College of Graduate Medical Education (ACGME) have taken the first steps in both defining the core competencies and identifying 140 specific milestones for internal medicine.⁶ Moreover, the ACGME, through its educational innovations program (EIP), challenged programs at the vanguard of medical education to develop competency-based progression models. This is not just a theoretical challenge. At least one training program, as part of its EIP, has already successfully implemented a competency-based system. In that program interns begin as “learners,” then

progress to “managers”⁷ and eventually “teachers.” Each stage is defined, and the requisite skills are enumerated as milestones within the core competencies. The supervision is appropriate to the level of the learner, and the resident must demonstrate competence in all the skills at each level in order to progress. With each promotion comes both increased responsibility and the autonomy that is integral to the development of an independently functioning physician.⁸ Will this model ultimately produce better patient outcomes while simultaneously producing better physicians? It is too soon to tell. What we do know, based on the findings of Phillips and Barker, is that we cannot continue with our past model of supervision, which sacrificed present patient care to ensure future patient care. Neither can we move to a system of perennial supervision that does not allow residents to act independently. Instead, we must recognize that supervision and autonomy have equal value; ultimately they are both about patient care.

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