Crossroads: Two Points of View: RESIDENT WORK HOURS:
DISTINGUISHING RESIDENT SERVICE ISSUES FROM EDUCATION AND
SAFETY
James C. Watson
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The ACGME resident work hour requirements forced neurology residency programs to make system changes in patient care delivery and resident education. This has involved reforming hospital team structures, increasing attending responsibility, rescheduling resident educational activities, and eliminating some resident rotations. There are ongoing concerns about continuity of care, patient safety, resident education, and shifting responsibilities onto busy academic staff (the accompanying editorial by Dr. Nina Schor focuses on concerns of the first and last of these). None of these concerns are new. They were justified by the ACGME prior to the implementation. While we have been forced to become creative and more efficient in resident education and our patient care delivery models, I believe that our success in achieving the end goals (quality patient care and training competent neurologists) has not changed.

Primum non nocere (First, do no harm) is the most basic guiding principle of the physician–patient relationship. Work hour requirements were instituted because of growing evidence that prolonged resident work hours are associated with higher rates of medical errors. Post-call performance during a heavy call rotation is comparable to the impairment of a 0.05 g% blood alcohol concentration. There is a decline after prolonged duty hours in manual performance skills, although published effects on cognitive tasks are mixed. Overall the literature on the negative effects of sleep deprivation on residents is extensive and available through the ACGME.

Has limiting resident work hours impacted patient safety? The literature is conflicting with major limitations from design, underpowering, and use of unproven outcome measures. However, the better done studies support that the change has not worsened patient care (i.e., failures from any impact on the continuity of care have not overwhelmed any advantages of restricted work hours) and may have improved aspects of care. Following duty hour implementation, mortality rates in patients with four common, high risk medical conditions improved in more teaching-intensive VA hospitals. These benefits were not seen, however, in surgical populations or in a study of hospitalized Medicare beneficiaries (although there was, importantly, no worsening). There was a small decrease in short term (i.e., in-hospital) mortality in high risk medical patients in teaching hospitals in another national analysis. Work hour restrictions decreased attentional failures and serious medical errors in the ICU by 36%. The number of pharmacist interventions to prevent error, ICU utilizations, and discharges to places other than home or rehabilitation decreased with work hour restrictions.

The loss of continuity of care has been viewed as the greatest threat to patient safety. The literature has not borne this out, showing, at worst, no change in patient safety from the prior system. Critical care and emergency medicine, with the sickest and most acute of patients, have shift work and transition of patient care to colleagues at their core. It is not a foregone conclusion that patient care sign-out leads to error. However, sign-out is the key to transferring care safely and has been a concern preceding the ACGME regulations. A survey of internal medicine programs found that most did not have formal sign-out systems or provide formal training in these skills. This increasingly critical skill needs to be prioritized and formalized in resident education. This has been identified as a key to decreasing hospital errors.

The hospital team is just that—a team, with one goal—the care of the patient. In 1956, Dr. Houston Merritt commented that for hospitalized patients, “there is an artificial division of responsibility” between members of the neurology team. It underestimates the importance and capabilities of the team as well as the strength of the sleep literature on the effects of sleep deprivation to suggest that the post-call resident with little, if any sleep (86%) of resident logs show <4 hours sleep on call) is in the best position to coordinate patient care.

Some would say the team mentality cuts at the core of professionalism and the concept of patient ownership and responsibility, but the “new professionalism” of modern day residency is a “commitment to work collaboratively to maximize the effectiveness of patient care in an environment of efficiency, safety, and compassion.” During rounds, residents must attend to the discussion and plan of all patients as ultimately carrying out that plan of care is a team effort. In this model, every case, not just the resident’s personal patients, are learning opportunities. Working extended hours to be available to place an order or be the first to see test results is not education and does not make a patient identify a resident as his or her doctor. It is seeing that patients and their family regularly, educating them on the diagnostic process and their disease, and serving as that patient’s physician advocate that allows patients to identify their physician. In these longitudinal day to day interactions, residents learn the art of medicine, the intricacies of neurologic care, the course of neurologic disease, and the empathy of the profession. This is the education taught by patient care and this responsibility is core to professionalism. This can be done in the current system.

If 80 hours per week are not sufficient for neurologic resident education, then what is? What did residents do with those additional hours beyond our...
current regulations previously? It was not spent on more formal education. It was service—simply doing the work that needed to be done. In neurology, the main problem with work hour regulations is not education (there is a lack of reports on increasing numbers of underprepared trainees who cannot pass the board certification test), the impact on continuity of care (a challenge that deserves further attention, but manageable), or patient safety (it is no worse, and perhaps safer, than our prior system), although that is how we have framed the discussion. The issue is how we meet the patient care needs of hospitals with less resident time and the economic reality of a nonprocedural specialty. The work hour requirements made us rethink how we structure our hospital services, but further creative dialogue and new hospital care service model solutions offer an opportunity to improve staff physician satisfaction and resident education. Vigilance and well-designed educational studies will be required to assure that we do not sacrifice too much formal education to simply cover the service. After all, residency training is supposed to be about education. Certainly that can be accomplished within the work hour limitation framework.

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RESPONSE

The opinion pieces authored by Dr. James C. Watson and me seem, at first blush, to be saying very different things. However, the essence of what we observe and what we perceive to be imperatives going forward is the same. The important “take-home” messages for the future from both of these essays are as follows:

- It is critical that the training environment for residents and fellows be optimized vis-à-vis:
  - Patient and trainee safety.
  - Trainee education.
  - Patient and family sense of importance to the health care workforce.

- Ensuring that the workday does not extend in duration beyond what the evidence base indicates would be performance-impairing limits is one component of such an optimization paradigm.

- Making this workday duration optimization feasible and functional without incurring the
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