In 2003, the Accreditation Council for Graduate Medical Education (ACGME) instituted duty hour reforms in response to the Libby Zion case and congressional pressure for national regulation. The major element of this reform included the limitation of duty hours to 80 hours per week averaged over a four-week period. In 2008, the Institute of Medicine (IOM) released a report on resident duty hours recommending even stricter standards (including limiting intern shifts to 16 hours), which was implemented by the ACGME in 2011.

In order to assess residents’ responses to the new proposed changes, resident surveys were conducted. A baseline survey was performed in 2010, which indicated that the majority of the respondents believed that the new changes would have a positive effect on residents’ quality of life and wellbeing. Collectively, the effects of the new duty-hour changes on the quality of care delivered to patients—as well as on residents’ education, experience, fund of knowledge, and preparation for more senior roles—were perceived to be more negative. A follow-up survey was performed in 2012 to assess whether the concerns raised in the 2010 survey had become a reality during the year following the adopted changes. A total of 40.9% of residents in the survey said they believed the new guidelines had adversely affected their education, whereas only 16.3% indicated that the changes had benefited resident learning. Similarly, a majority of residents believed that preparation for more senior roles was worse.

There is no denying the fact that sleep deprivation impairs a physician’s performance in controlled experiments. Still, there was no improvement in overall mortality in the state of New York after duty-hour restrictions were implemented in 1989 and little change in mortality among high-risk teaching service patients after the implementation of the original 2003 ACGME standards. In 2007, Volpp et al. found that overall duty-hour reforms were not associated with either significant worsening or improvement in mortality in the first two years following implementation. A recent study done by Sen et al. to determine the effects of the 2011 duty-hour reforms on first-year residents reported fewer working hours. However, this decrease was not accompanied by an increase in hours of sleep or an improvement in depressive symptoms or wellbeing but rather was accompanied by an unanticipated increase in self-reported medical errors. Thus, at best, duty-hour restrictions have not adversely impacted patient safety or quality of patient care—but neither have they substantially improved it. A potential explanation for this lack of benefit could be that the duty-hour restrictions have resulted in more fragmented care, frequent handoffs, and work compression (i.e., seeing the same number of patients in less time), which is offsetting the potential positive impact.

At a time when medicine as a field is rapidly growing, restricting duty hours has the inevitable effect of reducing clinical experience and acumen, which are necessary to practice medicine independently. The ACGME has noted a sharp decline in the number of hours worked since the initiation of work-hour restrictions, and it is inevitable that these residents have spent less time with patients compared to their predecessors. Even though we can impart book knowledge by increasing the number of didactic sessions, online teaching modules, and other approaches, the majority of learning still happens by spending time at the bedside. We can teach our residents about the “disease,” but the fundamental goal to know the “patient” and learn directly from the patient is becoming challenging. In a recent study published by Block et al., medical interns spent 12% of their time examining and talking with patients, 7% of their time walking the wards, and more than 40% of their time behind a computer. Reduced work hours in the setting of increasing medical complexity, growing documentation demands, and escalating volumes of patient data may further limit the amount of time our residents spend with patients. This decrease in the time spent with patients may have a huge impact on developing physician-patient relationships. Above all, I think most of us chose medicine because we love spending time with patients; that point is somewhere being lost.

I am all for well-rested residents with an appropriate balance of professional and personal life, but the lack of consistent data demonstrating an improvement in short- and long-term patient outcomes is concerning. Many questions still remain unanswered, including: 1) Has limiting duty hours unequivocally improved patient safety or benefited resident education? 2) Are tomorrow’s physicians going to be well prepared to handle the challenges and complexity of their patients? and 3) Are duty hours the...
right metric to assess patient safety and quality?

We definitely need more studies to assess the impact of duty-hour restrictions on the proficiency of our graduates. We need well-defined objectives focused on improving patient outcomes (patient safety and quality) with clear metrics. Rosenbaum and Lamas have called for the ACGME to grant residency programs a research exemption to study the impact of duty-hour restrictions, and I think that would be a good start. 11

References