One Possible Future for Resident Hours: Interns' Perspective on a One-Month Trial of the Institute of Medicine Recommended Duty Hour Limits

Stephanie Tessing, MD
Andria Amendt, MD
Jeanine Jennings, MD
Joanna Thomson, MD
Katherine A. Auger, MD
Javier A. Gonzalez del Rey, MD

Abstract

Background In December 2008, the Institute of Medicine (IOM) released the report of a consensus committee recommending added limits on resident duty hours.

Methods Perceptions of interns participating in a 1-month trial implementation of the IOM-recommended duty hour limits in one large pediatric residency program during March 2009 were aggregated.

Results Interns experienced benefits from the shift-based schedule, including reduced hours and more nights at home. These were accompanied by shortcomings of the new schedule, most prominently increased intensity during the hours worked, weaknesses in sign-outs and handing off of tasks, and inability to know and "own" all patients on the interns' team. The experiment also changed the role and the level of engagement expected from attending physicians.

Conclusions The trial implementation of the IOM-recommended limits highlighted that to adapt to additional reduction in hours, residency education needs a significant culture change, including better sign-outs, improved organization of bedside and didactic education, and attention to the added work intensity of a team-based model with daily admissions. Ultimately this may require an adjustment in residents' workload and different expectations and models of support from attending physicians.

Introduction

In March 2009, the pediatric residency program at Cincinnati Children's Hospital Medical Center (CCHMC) implemented a 1-month trial of a shift-based schedule that complied with the December 2008 recommendations for duty hour limits by the Institute of Medicine (IOM) Committee on Optimizing Graduate Medical Trainee (Resident) Hours and Work Schedules to Improve Patient Safety.[1] This experiment with shift schedules in the CCHMC pediatric residency program provided an unprecedented look into one possible future of residency training, by showing the benefits and limitations of a fully IOM-compliant resident schedule. Not surprisingly, each benefit was accompanied by a shortcoming, which led to different perspectives about the experiment's success from those overseeing the endeavor and those on the experimental team entrenched in the day-to-day business of patient care in March 2009. Using experiences pooled from all interns involved in the trial implementation, we summarize these paradoxical relationships below.

Stephanie Tessing, MD, is Pediatric Resident at Cincinnati Children's Hospital Medical Center; **Andria Amendt, MD,** is Pediatric Resident at Cincinnati Children's Hospital Medical Center; **Jeanine Jennings, MD,** is Pediatric Resident at Cincinnati Children's Hospital Medical Center; **Joanna Thomson, MD,** is Pediatric Resident at Cincinnati Children's Hospital Medical Center; **Katherine A. Auger, MD,** is Pediatric Hospitalist at the Department of General Pediatrics and Instructor at University of Cincinnati College of Medicine; and **Javier Gonzalez-del-Rey, MD,** is Associate Director at the Division of Emergency Medicine and Director of Pediatric Residency Programs at Cincinnati Children's Hospital Medical Center.

The content of this commentary stems from the interns' perspective on the trial of the 2008 proposed Institute of Medicine work hours. Dr Gonzalez-del-Rey and Dr Auger edited the commentary for clarity and not content.

Corresponding Author: Stephanie Tessing, MD, Cincinnati Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, OH 45229, 513.636.4906, stephanie.tessing@cchmc.org

DOI: 10.4300/JGME-D-09-00065.1

Duty Hour Compliance

By following the shift work model recommended by the IOM, we very rarely violated work hours; however, we felt like we were always in the hospital. When not in the hospital, we were sleeping or preparing to return to the hospital for another shift. This left little time to actually enjoy the increased number of hours off per week.

Staying and "Cleaning Up"

The shifts were designed to make sure that we did not stay late at the hospital. When the shift was complete, the model called for us to sign out the work to the incoming resident and leave. This plan was appealing in theory. In practice, we frequently stayed an additional 1 to 3 hours after each shift

to help "clean up" the work that had piled up. The structuring of the shifts meant that we only infrequently violated the duty hour limits by staying late. However, we placed additional stress on ourselves because we "could not get everything done." As a result of this experience, we are trying to change this "need to clean up" in the new interns through innovative ways to sign out the work without guilt.

Knowing and Owning Patients

By working in shifts, each of us took responsibility for all the patients on the team. In general, we all knew the team fairly well. This general knowledge is helpful when one comes from a culture of cross-covering patients. The new model made it more difficult to present a patient on rounds that we had not admitted and about whom we did not know all the details of diagnosis, prognosis, and care plan. Our attending physicians expected us to know everything about each patient, as we would when we had "our" patients. The reality was that, if the information was not in the sign-out, we may not have known the answer. This led to frustration on the part of the attending and the presenter.

Sign-outs

Over the 1-month trial we became adept at timely, efficient, pertinent sign-outs, in part because there were so many transfers of care at the end of a shift. In a 24-hour period there were at least 4 sign-outs for which we spent a significant amount of time preparing during a shift and on any given shift, each resident would take part in 3 of these sign-outs. Since our census was consistently high, signing out took approximately 1 hour or more and was interrupted by pages to the team pager and our personal pagers. Two consequences are that we never went to noon conference and the short-stay person never left at noon as scheduled.

Rounding

Due to the relatively high patient census, patients were divided between a morning rounding period and an afternoon rounding period. This division was helpful for lightening the morning rounding load and seeing new admissions with an attending in the afternoon. The negative aspect was that we were always preparing for rounds. Directly after the noon sign-out, at least one person had to start preparing and pre-rounding for afternoon rounds while the other resident started seeing admissions. This made the afternoons hectic and the afternoon rounds somewhat chaotic.

We found ways to be efficient on rounds and complete some work that otherwise would have been required later, including discharges, writing prescriptions, and placing necessary orders. We also tried to do as much discharge planning as possible at the time of admission—a helpful practice to adopt for any resident team. However, this system only worked well if the team was willing to spend a few extra minutes during rounds on each patient to complete the work in the room. Rounds in this system were generally more stressful than in the traditional system with overnight call, in part due to our lack of familiarity with the patients we were presenting, the frequency with which we were paged out of rounds, the number of patients that needed to be seen, and the number of tasks to complete each day, including sign-outs, orders, discharge summary, and paperwork.

The Elimination of In-house Call

Eliminating the every-fourth-night schedule of 30 hours of in-house calls meant we were able to sleep in our own beds at least once every 24 hours. The offset was that each of us admitted patients every day. There was never a "slow" day when we could relax a little and know we would not have to admit new patients. We were essentially "on-call" every time we stepped into the hospital, covering a large census (and the pager load that accompanies it) and taking admissions. This led to added stress while at work and more guilt about "leaving work behind" for the next resident. There were times when we received so many admissions during the afternoon rounds that the evening resident would have 3 to 5 new admissions to sign out to the oncoming night resident. This was very difficult for the outgoing and the accepting resident.

Discharge Summaries

The normal expectations for admission paperwork had to be revised since there was just not enough time to type a history and physical, type a separate sign-out, type up a discharge summary, and type up a progress note. This provided an opportunity to make some important changes to the current system that have also been applied to other teams throughout the hospital. The discharge summary was the crucial common factor in residents staying late. We were able to expedite discharges if discharge summaries were started and kept up-to-date as much as possible. On the contrary, there was little likelihood of efficiently discharging a patient during rounds if the discharge summary had not been started.

In-house Attending Presence

An attending was present in the hospital until 11 PM. This was a superior approach for staffing new admissions, resident one-on-one teaching, and medical student one-on-one teaching. It worked well when the attending was willing to see patients as a team so that the completed written history and physical form could be dropped in the chart at the end of the attending visit. In our trial, we increased the number of interns on inpatient assignment to allow us to create the shift schedule; however, the number of patients

was the same with fewer providers at a given time because of shift work (no advance nurse practitioners or hospitalist took on care of the patients during our trial implementation). A barrier to the effective implementation of the new system was attendings and residents who were not willing to work as a team. There also was some loss of resident autonomy with this system.

Conclusions

Whether good, bad, or indifferent in its elements, the experience with a shift work model highlighted one salient point: residency training needs to undergo a culture change. We must teach the incoming residents to sign out work and leave on time. We must learn how to sign out quickly, efficiently, and safely. All residents must be provided organized education (bedside and didactic) regardless of the time of day they work. Senior residents must be given the opportunity to become leaders and supervisors while being enabled to support their interns. Above all, we need to adjust and balance our workloads and to be supported by our attending physicians with realistic and consistent expectations and acceptance of a new culture of residency. If nothing else, we showed that a shift work model has potential—it did not offer a definitive cure, but it suggested a start. As with most progress, it alleviated some issues while unveiling a host of other problems that must be addressed.

Reference

1 Ulmer C, Wolman D, Johns M, eds; Committee on Optimizing Graduate Medical Trainee (Resident) Hours and Work Schedules to Improve Patient Safety for the Institute of Medicine. Resident Duty Hours: Enhancing Sleep, Supervision, and Safety. Washington, DC: National Academies Press; 2008.