

# Reducing work hours for medical interns increases patient 'handoff' risks

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Limiting the number of continuous hours worked by medical trainees failed to increase the amount of sleep each intern got per week, but dramatically increased the number of potentially dangerous handoffs of patients from one trainee to another, new research from Johns Hopkins suggests. The reductions in work hours also decreased training time, the researchers found.

In 2011, stricter national regulations, reducing the continuous-duty hours of first-year resident physicians from 30 to 16, were put in place with the theory that limiting trainees' [work hours](#) would lead them to sleep more and that less fatigue would translate to fewer serious [medical errors](#). But Sanjay V. Desai, M.D., leader of the new research described online in *JAMA Internal Medicine*, says data from his work do not support that idea. Instead, he says, his research suggests that unintended consequences of the new rules could be making patients less safe and compromising resident training.

"The consequences of these sweeping regulations are potentially very serious," says Desai, an assistant professor of medicine at the Johns Hopkins University School of Medicine, and director of the internal medicine residency program at The Johns Hopkins Hospital. "Despite the best of intentions, the reduced work hours are handcuffing training programs, and benefits to patient safety and trainee well-being have not been systematically demonstrated."

He says the 16-hour limit was put in place without evidence of whether

it would improve patient safety and outcomes. "We need a rigorous study," Desai says. "We need data to inform this critical issue." Now is the time to collect it, he says.

For the study just reported, Desai and his Johns Hopkins colleagues compared three different [work schedules](#) in the months leading up to the 2011 change. For three months, groups of medical [interns](#) were assigned randomly to either a 2003-compliant model of being on call every fourth night, with a 30-hour duty limit, or to one of two 2011-compliant models. The latter included being on call every fifth night but working only 16 hours straight, or a night float schedule, which essentially had interns working a regular week on the night shift not exceeding 16 hours.

Although interns on the 16-hour limit schedule did sleep an average of three hours longer during the 48 hours encompassing their on-call period than those working 30-hour shifts, there was no difference in the amount of sleep they got across a week. "During each call period, the interns had 14 extra hours out of the hospital, but they only used three of those hours for sleeping," Desai says. "We don't know if that's enough of a physiologically meaningful increase in sleep to improve [patient safety](#)."

In the study, the researchers found, the minimal number of patient handoffs between interns increased from three for those working 30 hours to as high as nine for those working 16-hour shifts. The more handoffs, the less continuity of care and the more room for medication and other treatment and communication errors, past research has shown. Meanwhile, the minimal number of different interns caring for a given patient during a three-day stay increased from three to as high as five. Whether or not, or in what way, that affects patient care or patient satisfaction is another unknown, Desai says.

Trainees and nurses alike said they perceived higher quality of care on the 30-hour model, the study found. In fact, Desai says, the perception

of quality of care was reduced so much in the night float model that it was stopped early.

Desai says their study showed that educational opportunities suffer greatly from the 16-hour restrictions. A main component of an intern's education at Johns Hopkins is rounds, which used to occur for three to four hours each morning as senior physicians led trainees from bedside to bedside, quizzing them and offering instruction for how to care for each patient. Rounding time has been cut in half to accommodate the shrinking schedules of interns, even though rounds are at the core of patient care and trainee education.

Before the limits, interns did all patient admissions and generally spent the next 24 hours following those they admitted through the course of their disease. Now, there are times in the day when interns cannot admit the [patients](#) and cannot see them through initial assessments.

Ideally, Desai says, the ACGME rules can be relaxed if there is evidence they are not achieving their goals. The current rigidity stifles innovation, he adds.

"Dramatic policy changes, such as the move to 16 hours, without a better understanding of their implications are concerning," he says. "Training for the next generation of physicians is at risk."

Provided by Johns Hopkins University School of Medicine

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