Does the Annual Medical-Trainee Changeover at Teaching Hospitals Harm Patients?

What is the problem and what is known about it so far?
At teaching hospitals in the United States and Europe, medical trainees (interns, residents, and fellows) provide a large portion of patient care. Each summer at the beginning of the academic term, a set of trainees leave these teaching hospitals and a new set of trainees takes over their duties. As a result, the average experience of the workforce abruptly declines, and care teams and workflow patterns are disrupted. A commonly held notion is that quality of care declines during this transition, an impact called the “July effect.” Investigators have studied whether the changeover has a harmful effect on patient care, particularly in the first month after the switch, but results of studies have varied.

Why did the researchers do this particular study?
To learn more about the effects of trainee changeover on patient outcomes.

How was the study done?
The authors searched the English-language medical literature for articles published between 1989 and July 2010 that examined the turnover of physicians-in-training related to the beginning of the academic year. They identified 39 studies that were appropriate for inclusion in the review, all of which used a control group or a time period as a comparison, and gathered data on patient mortality, patient morbidity, medical error, and efficiency (such as length of stay, costs, or operating room time).

What did the researchers find?
On the basis of their analysis of all identified studies on this issue, the authors concluded that trainee changeover is associated with higher rates of in-hospital death and decreases in efficiency. They could not draw conclusions on the degree of risk posed, how the changeover affects other complications, or whether particular models for how the changeovers occur are more or less problematic.

What were the limitations of the study?
The definition of changeover, the role of the physicians-in-training in patient care, and supervision structure varied among studies. No study focused on the effect of changeovers in outpatient care settings.

What are the implications of the study?
These findings raise important questions for patients, healthcare systems, and training programs. Strategies to address the effects of changeovers may lessen the harmful effects on patient care.