“Yes,” says Hardeep Singh, M.D., M.P.H., a staff physician at the Michael E. DeBakey VA Medical Center and assistant professor of medicine at Baylor College of Medicine. “Trainees (medical students, interns, residents or fellows) were more likely to make errors related to poor teamwork and poor communication. Errors by trainees were also more likely to be related to technical failures (for example, errors related to medical procedures or medical knowledge) and problems of excessive workload.”

As a group, medical trainees have several vulnerabilities that may increase their risk of involvement in medical errors. They are relatively inexperienced, are often fatigued due to long shifts, and frequently work in large, complex medical centers that serve the sickest patients. Although these and other factors pose risks for patient safety, until now little has been known about the nature and causes of medical errors involving trainees. Better knowledge of errors that occur in training environments could lead to changes in medical education that could enhance patient safety.

To understand the characteristics of trainee errors, Singh and his colleagues analyzed data from a sample of closed medical malpractice claim files at five insurance companies. The claims represented physicians and medical trainees in a variety of specialties across the United States and were categorized into one of four common types of malpractice claims: obstetric, surgical, diagnostic and medication-related. Singh and colleagues closely examined contributing factors in cases of errors that resulted in adverse outcomes, focusing on teamwork problems, cognitive errors, and “system factors” such as workload and distractions in the work environment. They analyzed the frequency of these contributing factors in 649 claims involving experienced physicians and in 240 claims in which a trainee – a medical student, intern, resident or fellow – was judged by expert reviewers to have substantially contributed to an error.

Errors in judgment, failures in vigilance or memory, lack of technical competence or knowledge, and teamwork-related factors were the most common contributory factors identified in trainee errors. Among trainees, problems in technical competence occurred most frequently during diagnostic decision making; teamwork breakdowns were most often related to inadequate supervision and problems with patient “handoffs” (times when doctors or trainees go off-shift and transfer care of the patient to someone else) between staff. Lack of technical competence and teamwork factors, as well as excessive workload, were also significantly more prevalent among trainee errors compared to nontrainee errors. Trainee cases had a greater average number of contributory factors than did nontrainee cases, suggesting that the causes of trainee-related errors may have more complex origins.

Although this study focused on errors that disproportionately resulted in serious adverse outcomes, other studies based on surveys and interviews have also implicated problems of teamwork and technical competence in trainee errors. While complicated, many trainee errors are also likely to be preventable. Identifying the specific processes and competencies that are most vulnerable to error is a first step toward improving the safety of patients who receive care in medical training environments. Singh and colleagues conclude by proposing that potentially important targets for medical education reform include improving teamwork, supervision at multiple levels, and diagnostic decision making.

Archives of Internal Medicine 2007; 167: 2030-2036.
HEALTH POLICY research presents a summary of findings on current health policy issues. It is provided by the James A. Baker III Institute for Public Policy’s Health Economics Program in collaboration with the Baylor College of Medicine’s Health Policy and Quality Division.

This publication is provided to make research results accessible to regional and national health policymakers. The views expressed herein are those of the study authors and do not necessarily represent those of the Baker Institute or of the Baylor College of Medicine.

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