

## Monthly resident handoff of patients may increase risk of dying

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Transitions in care that occur when medical residents leave a clinical rotation and turn their patients' care over to another resident is associated with increased mortality, according to new research presented at the ATS 2016 International Conference.

According to lead researcher Joshua Denson, MD, a fellow in pulmonary and [critical care medicine](#) at the University of Colorado, previous studies have looked at adverse outcomes associated with the daily shift changes that occur in the hospital, but few studies have looked at the "more permanent" handoffs that occur on a monthly basis at academic hospitals, where residents train by moving through a series of clinical assignments. Those studies that have looked at resident handoffs, he said, were not large enough to reach conclusions about patient mortality.

"Most hospitals have guidelines for the handoffs that occur on a daily basis, and usually those handoffs include a face-to-face discussion between doctors about what will happen to the patient during the next shift," Dr. Denson said. "But few have guidelines for this monthly handoff, in which a resident turns over for good the care of 10 to 20 patients, often in an email or telephone conversation."

Dr. Denson, who was chief resident at New York University when the study was conducted, worked with colleagues to review 230,701 internal medicine patient discharges from 10 Veterans Administration hospitals between 2008 and 2014.

Researchers identified 63,911 patients who died or were discharged from the hospital within 7 days of experiencing a transition in care from an intern (a first-year medical resident), resident or both an intern and resident. All other discharges served as the control for each of the three handoff groups. Researchers also looked at 30-day and 90-day mortality rates following discharge.

Among patients in the 3 handoff groups, researchers found a:

- 64 to 95 percent increase in in-hospital mortality.
- 76 to 82 percent increase in 30-day mortality.
- 72 to 84 percent increase in 90-day mortality.

Researchers then adjusted for potential confounding factors, including age, comorbidities, length of stay and race and ethnicity. They found that the associations between 30-day and 90-day mortality and the 3 types of handoffs remained statistically significant. In-hospital mortality remained statistically significant only for intern handoffs. Researchers said study outcomes were similar across the 10 hospitals.

Dr. Denson said the stronger 30-day and 90-day mortality findings were a surprise. He speculated that the transition in care could lead to medication or other discharge errors because the new intern or resident lacked a complete picture of the patient. But, he added, "We don't know the root cause of this."

"Transitions in care are common, they are not preventable, and they can be dangerous, particularly those that occur at the end of a resident's clinical rotation," he said. "We need high-quality research to make them safer."

**More information:** Abstract 9207: Increased Mortality Associated with Resident Handoff in a Multi-Center Cohort

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