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Study shows face-to-face shift changes could improve transfer of patient care information

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For Business First

Monitoring the status of a space flight and a hospital patient have more in common than casual observation may suggest, according to a recent study by Ohio State University researchers.

Critical patient care information may be communicated more effectively and efficiently by the adoption of shift-change practices in mostly unrelated but high-pressure professions, says Emily Patterson, one of the study's authors and research physical scientist for Cincinnati's Veteran's Affairs Getting at Patient Safety Center. She's also a visiting researcher at OSU's Institute for Ergonomics.

Patterson says restrictions that were put into place last year to limit hours for hospital resident physicians provided the impetus for the study because residents typically worked through critical care situations before handing off responsibility to an incoming resident physician.

"We thought it was interesting that they were concerned about shortening the residents' work hours because of the increased

handoffs," says Patterson, referring to institutional reaction to the Accreditation Council for Graduate Medical Education 80-hour week restriction instituted in July 2003.

"We thought it was too black-and-white to say either we have to have people who are fatigued or we have to have errors in handoffs," she says. "We wanted to work out some of the ways in which handoffs are helpful."

Patterson co-wrote the study with David Woods, a professor wtih the institute.

Getting interactive

The U.S. Department of Veterans Affairs GAPS Center provided funding for Patterson to study handoffs in diverse professional environments. The study observed work processes at NASA Johnson Space Center, two Canadian nuclear power plants, a railroad dispatch center in the United States and an ambulance dispatch center in Toronto.

"The face-to-face handoff - it seems so obvious that it would be important, but there's a lot of efficiency and other reasons not to do it," says Patterson.

Nevertheless, personal interaction when handing over responsibility to the next shift is "one of the most important things to allow ... interactive questioning."

The study also concluded that interactivity and information absorption appeared to improve when hand-offs included "read-backs," or verbal communication of written notes allowing for questions by the outgoing and incoming workers.

"It cues them to start thinking about what are some missing pieces to track down, some threads that are left hanging," Patterson says. "During the handoff, you say, 'Here's the status of this patient.' In order to give the summary, you have to look

into the situation and see what happened."

While such suggestions might seem obvious, Patterson says multiple control measures can make a difference in reducing errors and information gaps in patient care. She says the study's findings will be used at the planned Veteran's Affairs ICU Outcome Center planned for the GAPS Center, "starting with the resident physicians to see if any of the handoff strategies could be used in that sense."

Complicated process

The study's other key findings of best practices include: making transfer of responsibility unambiguous and keeping control of a shift clear during handoffs.

Dr. Andrew Thomas, assistant medical director at Ohio State University Hospital, says Patterson's study reflects the kinds of practical considerations hospital care professionals have had to mull since the restriction of residents' hours went into effect. However, handoff concerns are not a new issue, Thomas says.

"There's been a long-standing tradition on most of our inpatient services here that there's an actual piece of paper passed from the person who's going home to whoever is on call," Thomas says.

That tradition has been updated following residency hour restrictions to "MD Notes," an electronic system in which residents enter patient information and action plans for care. While the process has been upgraded, it is still concluded by a face-to-face meeting to go over the written points, Thomas says.

"For some patients, they might not spend more than 10 or 20 seconds," he notes. "If it's a new patient or a change in status, (a meeting) allows them to elaborate on what they've written to get feedback (and) to answer questions."

Richard I. Cook, associate professor of anesthesia and critical care at the University of Chicago, says he thinks an ongoing study he is leading at the school's University Hospitals and other facilities will dovetail with Patteron's findings in other work environments.

Often, "people believe that (handoffs are) a straightforward kind of process ... but it's actually a very complicated process that involves lots and lots of fine-grained detail," Cook says. "That's one of the reasons why people so often get it wrong."

"It's clear to me that the kind of work that Dr. Patterson has done is critical in helping us understand what the implications of all this will be," Cook says, adding that how technology is used during process "remain to be discovered."

"I'm confident they will be worked out because so many people are trying to do this," Cook says. "A fairly large amount of this stuff now involves electronics because the data is already recorded there. It's not a matter of going from a manual to an automated system but figuring out ways to make the automated component work more effectively."

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