

Attempt to shorten shifts for doctors causing unintended consequences

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The gruelling, sleepless hours that students endure during residency, the century-old tradition that transforms trainees into doctors, has long been blamed for unnecessary medical errors.

But it's not lack of sleep alone that can lead to errors. Emerging research is pointing to patient handover – the critical process in which a doctor passes on information about a patient's treatment to the incoming doctor – as another time when mistakes are likely to be made. It's a discovery hospitals are only beginning to address. And attempts to shorten shifts have had unintended consequences, leading to residents working a greater number of shifts with less time to catch up on sleep – and increasing the number of handovers, says a report published Tuesday in the Canadian Medical Association Journal.

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Medical residents in Canada work some of the longest hours in the world. An average week of work is 60 to 90 hours, with a shift running as long as 26 hours, except in Quebec, where shifts were limited to 16 hours in 2011.

Merry Maclellan, a first-year family medicine resident with the University of Toronto, occasionally receives handover reports with information missing.

“Once with an obstetrical patient, the baby had gone to the ICU and I just didn't know that. I went to see the woman after delivery and her baby wasn't with her and I just didn't have that information,” she said.

While Dr. Maclellan's case didn't lead to a medical error, nearly half of residents report being involved in an adverse event due to handover, according to a survey of its members by the Canadian Association of Internes and Residents. One 2013 JAMA study found that shorter shifts resulted in a spike in handovers, with patients being passed between doctors a minimum of seven times, up from three.

“On a regular basis I think that I may not get complete handover,” said Christopher Little, a third-year internal medicine resident at the University of British Columbia.

Most residents learn handover informally outside the classroom. The Canadian Association of Internes and Residents plans to release a report with recommendations on how to improve handover education this summer.

Past research on the relationship between resident shift length and patient safety had pointed at long shifts as the culprit behind medical errors. For example, a 2010 systematic review of 23 studies concluded that reducing or eliminating shifts longer than 16 hours “was associated with improved patient safety.”

But a more recent systematic review of 135 studies, led by Najma Ahmed from St. Michael's Hospital in Toronto, found that strict limits on shift hours have a negative impact on patient safety.

“Even though it is intuitively attractive to think that if you reduce duty hours residents will be better rested and that will result in better patient care, that's not necessarily borne out by the evidence,” said Reena Pattani, who wrote the new report in CMAJ during her last year of residency at St. Michael's.

“The area of [resident] duty hours is one in which the literature has been pretty diverse and it's populated with all kinds of opinion pieces and descriptions of impending doom,” said Kevin Imrie, physician-in-chief at Sunnybrook Health Sciences Centre in Toronto. Dr. Pattani's review “provides a very balanced view,” he said.

Dr. Imrie, who is also co-chair of the National Steering Committee on Resident Duty Hours, says there are no plans to standardize shorter hours across Canada. Instead, the committee recommends a flexible, customizable schedule with fatigue risk-management strategies, such as sleep breaks, and better handover communication skills to improve patient safety.

Joseph Dahine, president of Fédération des médecins résidents du Québec, recognizes that needs of institutions vary; the Fédération has granted exemptions to the province's 16-hour rule for certain residency programs. "I think that definitely the rest of the country should sway away from 24 hours ... because issues of [resident] health and safety are universal," he said.

"There's no one-size-fits-all solution here and it's going to depend on different training program's needs," Dr. Pattani said.

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