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Scheduling Problems in Medical Residency

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Amy Cohn, PhD, joined the faculty at the University of Michigan College of Engineering as an Assistant



Professor in the Department of Industrial and Operations Engineering in 2002 and was promoted to Associate Professor in 2009; in 2011, she was also named a Thurnau Professor. She currently holds the position of Associate Director for the Center for Healthcare Engineering and Patient Safety. Her primary research interest is in robust and integrated planning for large-scale systems, predominantly in healthcare and aviation applications. She also collaborates on projects in satellite communications, robust network design for power systems, and related applications. Her primary teaching interest is in combinatorial optimization techniques, at both the graduate and undergraduate level. Professor Cohn received her Ph.D. in Operations Research from the Operations Research Center at the Massachusetts Institute of Technology in 2002 and received the A.B. in Applied Mathematics, magna cum laude, from Harvard University in June, 1991. She is also affiliated with the MIT Global Airline Industry Program and the Industry Studies Association.

Brian K. Jordan, MD, PhD, is a Chief Resident in the Department of Pediatrics and Communicable



Diseases at the University of Michigan C.S. Mott Children's Hospital.

Medical residency serves two important roles: Residents not only gain hands-on educational experiences, but also play a critical role in providing patient care. Building a high-quality schedule for medical residents is no small task. These schedules must satisfy myriad educational requirements while providing patient coverage, matching resident skill sets to appropriate tasks, ensuring that residents have adequate rest but can also provide continuity of care, addressing the sleep issues associated with overnight shifts, respecting personal preferences, providing equity across residents, and more. Yet traditionally, this complex scheduling task has fallen to the Chief Residents, who are highly trained clinically but rarely have any experience or training in scheduling. Today, we discuss a collaboration between the Chief Resident in Pediatric Medicine from UM who is responsible for scheduling residents in pediatric emergency medicine and faculty and students in the IOE department to develop an automated, optimization-based decision support tool to facilitate this challenging task.

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For additional information and to be added to the weekly e-mail for the series, please contact genhkim@umich.edu.