

Patients see multiple clinicians on one visit, thanks to new scheduling protocol

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Credit: UT News

A new patient-centered scheduling protocol is improving the quality, efficiency and convenience of multiprovider health care, according to a recently published paper from The University of Texas at Austin.

Researchers with UT Austin's McCombs School of Business, the Cockrell School of Engineering and Dell Medical School describe how

patients being treated for joint pain at the medical school's Musculoskeletal Institute are able to see a variety of health care providers, one after the other, during the same medical appointment, without ever having to leave the exam room.

The researchers created a scheduling algorithm that employs supply chain concepts similar to those used to track and ensure timely transport of oilfield equipment to drilling sites. In a medical setting, this approach translates into more efficiencies for patients.

At clinics across America, it's not unusual for a patient with joint pain to make a primary care or chiropractic appointment, only to be referred to a physical therapist, a surgeon, or any number of other allied health professionals. Each can require separate appointments on different dates, sometimes with months-long wait times in between, often resulting in disparate and confusing recommendations for treatment.

But at the Musculoskeletal Institute's joint pain clinic, a patient can see a chiropractor, a surgeon, a physical therapist, a social worker and a dietician, all in the same visit, in the same room, with minimal waiting. The [health care providers](#) then work together as a team to coordinate an individualized course of care for each patient. It's a model called an integrated practice unit.

The researchers tested various scheduling scenarios based on the types of patients being seen—new and follow-up—and the kinds of providers each would potentially need to see for appropriate, convenient care. Upon arrival at the clinic, all patients first see an associate provider (a nurse practitioner, physician assistant or chiropractor) who determines which other [health](#) professionals that patient should see during that visit. Each provider gives a "warm handoff" of the patient to the next provider entering the room, creating seamless care without redundancy.

The scheduling algorithm creates real-time updates to clinicians' schedules throughout the day, based on which patients end up needing to see them. It also eliminates long wait times for specialist appointments and relieves the patient of the responsibility for scheduling numerous different types of [provider](#) visits about the same medical issue.

"Patients can feel the difference," said Dr. Karl Koenig, medical director for musculoskeletal care at UT Health Austin. "I've had people weep because they felt that for the first time, providers were really paying attention to them as a whole person."

The research was conducted by Douglas Morrice, professor of information, risk and [operations management](#) (IROM) and senior research fellow of UT's Supply Chain Management Center of Excellence in the McCombs School of Business; Jonathan Bard, professor in the Walker Department of Mechanical Engineering in the Cockrell School of Engineering; Pengfei Zhang, an IROM Ph.D. candidate; and Koenig, associate professor at Dell Med's Department of Surgery and Perioperative Care.

Morrice and Bard first worked on the approach in 2012 at the UT Health Science Center at San Antonio's anesthesiology clinic.

Koenig heard about the San Antonio clinic's success and decided the concept would be perfect for the Musculoskeletal Institute's [joint pain](#) clinic. When the clinic opened, he expected it to serve 28 patients a day. With the scheduling model in place, it has been treating 37 to 40.

More information: Pengfei Zhang et al, Extended open shop scheduling with resource constraints: Appointment scheduling for integrated practice units, *IIE Transactions* (2018). [DOI: 10.1080/24725854.2018.1542544](https://doi.org/10.1080/24725854.2018.1542544)

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