

Patients waiting too long to see doctor? Try 'just-in-time' management methods, researchers urge

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Using a pain clinic as a testing ground, researchers at Johns Hopkins have shown that a management process first popularized by Toyota in Japan can substantially reduce patient wait times and possibly improve the teaching of interns and residents.

In a report on the pilot study, published online Sept. 9, in *Pain Medicine*, the researchers adopted the so-called "Just-in-Time" training and inventory process used now by many manufacturers and service industries to stem waste and keep complicated operations from bottlenecking.

"We realized that a significant amount of time linked to the practice of having residents-in-training see patients in the pain treatment center at the Outpatient Center was wasted and could be reduced by having patients' records previewed by residents and discussed with attending faculty the day before appointments," says Kayode Williams, M.D., M.B.A., medical director of the Blaustein Pain Treatment Center at The Johns Hopkins Hospital. That kind of transfer and sharing of information, he says, gives residents what they need in a timely way. The new process reduces waits and avoids overtime, because residents, attending faculty members and patients spent less time waiting for each other to get up to speed.

For the project, two attending faculty members assigned cases to

residents the day before the patient visit. The residents reviewed each case and discussed it with the attending physician before each clinic session. Processing times for 504 patient visits were assessed over a total of four months.

Just-in-Time methodology exploits the idea that processes can be streamlined and sped up if important resources are available when they are needed. In the case of car production, for example, long-term storage of inventory and parts wasted time, money and space, and created bottlenecks on the assembly line. In the pain center, the attending physician's time and availability were identified as the sources of the holdup. Just-in-Time methods call for removing the logjam, so Williams and a team that included faculty members from the Johns Hopkins Carey Business School sought ways to reduce and streamline the attending physician's workload.

After the new method was implemented, the investigators estimate that the investment of 25 to 42 minutes by the attending physician in advance of the clinic hours resulted in a 175-minute reduction in total patient waiting time and a 28-minute reduction in overtime operations.

Not only did patients wait for less time, but residents were better prepared to treat patients, notes study co-author Maqbool Dada, Ph.D., a professor in the Carey Business School. "This results in more on-time performance, and the clinic faculty does not feel pressure to shorten patient interactions, since fewer patients are delayed," he explains.

An informal survey of the residents involved in the project indicated that they felt more confident when interacting with patients as a result of the preprocessing conversation, and they believed that their learning was enhanced by the approach. Surprisingly, says Williams, the attending physicians also noted that they were more confident when dealing with the [patients](#) and that the reduced congestion in the system made the day

flow more smoothly.

Williams notes that the findings could be used to streamline patient flow in other clinical settings. Similar strategies could be used to improve patient hand offs between clinicians in inpatient hospital settings.

Senior author John Ulatowski, M.D., Ph.D., M.B.A., of the Johns Hopkins University School of Medicine cautioned that more studies are needed to learn if the method improves patient satisfaction, increases the quality of teaching and lends itself to broadscale use in teaching hospitals.

More information: Applying JIT Principles to Resident Education to Reduce Patient Delays: A Pilot Study in an Academic Medical Center Pain Clinic [onlinelibrary.wiley.com/doi/10.1111/pme.12543/](https://onlinelibrary.wiley.com/doi/10.1111/pme.12543)

Provided by Johns Hopkins University School of Medicine

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