Swift, effective care and smart economics rest on getting patients through the emergency room as soon as possible. IT that delivers patient flow data plays a major role in maximizing efficiencies within the emergency department (ED).

“One of the challenges to driving [ED] throughput down is it can be difficult to dissect the processes and determine which interventions are making a difference,” says Neal Sikka, MD, emergency physician at the George Washington University Hospital in Washington, D.C. “Unfortunately, individual components of the throughput process are not [taking place] in a vacuum, and something that’s out of your control can and might change.”

In 2005, to help improve care for the rising number of patients in the ED and to begin collecting data on patient throughput, GW Hospital, whose 36-bed ED receives 65,000 patients annually, implemented an ED information system/EMR (Picis ED Pulsecheck).

Before then, few data or metrics were gathered, says Sikka. But once the ED data spigot was turned on, clinicians started getting real-time data, which enabled them to examine workflows and make a variety of changes to expedite care. For example, EMR data analysis showed that the peak ED arrivals began at 9:00 a.m., not 11:00 a.m., as had previously been thought. “We now plan to staff for triage earlier and we reduce the risk of getting behind,” he says.

As part of the hospital’s initiative to leverage EMR data to improve ED throughput, a variety of time intervals were examined. Insight gained from tracking greet arrival patterns and intervals such as greet to triage, triage to bed, and bed to disposition have lead to process modifications. In addition to matching nurse staffing in triage to the highest arrival rates, the hospital has shifted to electronic communication between greeting ED technicians and triage nurses, and now uses nurse-initiated triage protocols to start workups.

“Over the past few years since we began collecting data, our greet-to-triage times have improved nearly 50 percent,” Sikka notes, and the total length of stay in the ER has dropped by more than 15 percent.

GW Hospital plans to migrate to a Cerner EMR platform this fall. Like many other medical centers, the facility is moving to an integrated system for the entire hospital as compared to the current, disparate IT environment, according to Sikka. ED staff at all levels have been a part of the development and implementation team in planning for the changeover to the EMR. “Every effort is being made to ensure that there is no loss of functionality and that the ED can take advantage of the benefits that come with an integrated hospitalwide EMR,” he says.

**Managing the patient**
Throughput issues aren’t limited to large urban hospitals. Great Plains Regional Medical Center (GPRMC), a 116-bed full-service medical
The total throughput time differs if a patient is admitted or discharged. It may be much shorter for a low-acuity patient who is discharged, for example, notes Chudnofsky. At AEMC, 2.5 hours is the average time to disposition decision, he says.

Although many initiatives are under way at AEMC and elsewhere to reduce patients’ dependence on the ED, such a reduction won’t happen overnight—if it happens at all. In the meantime, hospitals of all sizes are tapping ED information systems, EMR data integration tools and other options to reduce the amount of time patients spend in the ED and increase physician efficiency, all the while improving the care they provide.