



From: *ED Management (February 2007)*

EDs Boost Performance with Web-Based Data System

Information Guides Managers Toward PI Solutions

A "homegrown" web-based tool called Web Emergency Medicine Analysis and Reporting System (**WEBEMARS™**) has enabled ED managers at the 17 departments administered by Livingston, NJ-based Emergency Medical Associates (EMA) to readily access current data on their unit's performance, gaining valuable insights that have led to significant performance improvement.

For example, several of the EDs have reduced the number of patients who leave without receiving treatment by 50% or more, by looking at the patient arrival rate to determine when the peak times were. By examining the diagnostic data, EMA units have increased the numbers of nurses, changed bed allocations, developed systems for moving patients through EDs more quickly, and introduced specialized units for observation.

WEBEMARS™ includes:

- a personalized web site portal through which users can access on-demand ED reports, interactive ad-hoc reporting tools, ED scorecards (including target and goal identification), and ED dashboards;
- integration services for source system data;
- data management services;
- data security services;
- business intelligence and metric identification;
- user training.

WEBEMARS™ has a one-time setup cost that can range from \$20,000 to \$30,000 per ED. Subscription costs range from 50 cents to \$1 per ED visit.

All administrative and clinical personnel use an electronic medical record patient-tracking system. When a patient is discharged, his data flow from the ED to an Oracle data warehouse at EMA's headquarters. There, it is combined with data such as patient satisfaction and physician billing information. The consolidated data are presented through web tools, scorecards, dashboards and reports. While doctors can view their own charges, treatments rendered and patient-satisfaction rates on their scorecards, administrators can use the system to see overall results.

" **WEBEMARS™** is a data mining tool," explains Eric Bachenheimer, MBA, MHSA, FACHE, EMA's Director of Client Solutions. "It goes into the 'universe' and allows users to extract measures you look for to optimize operations."

The Greatest Challenge?

The data can be used to track many types of performance, including operations, finance, patient satisfaction, clinical presentation of patients, census, walkout rates, and turnaround times, says Bachenheimer. "The greatest challenge is deciding on how much information you want to capture," he says.

One example is the daily scorecard or 'dashboard,' which offers summary metrics such as daily volume, admission turnaround time, and walkout rates. "It gives you a picture of what is really happening in the department," Bachenheimer says. "You can use it to work with the hospital administration to look at

staffing, throughput, or enhancing flow, or it can be used to achieve regulatory compliance or support Lean and Six Sigma initiatives."

Door-to-Doc Time Slashed

The ED at Hudson Valley Hospital Center in Courtlandt Manor, NY, slashed its door-to-doc times by more than 50% with the help of WEBEMARS, says Maryann Maffei, RN, MS, clinical nurse manager of emergency services.

"In order to make good decisions on processes, you need to look at the data," says Maffei, who says her department's highest average door-to-doc time was 54 minutes and that now it's down to 24 minutes. "I've worked in a number of different EDs, but had never been able to capture the time the patient arrived," declares Maffei, who says her department started working with EMA in 2003. "Now, we can accurately time how long it took to triage a patient." In fact, she says, the tool has been used to address the entire turnaround process. "We can look at times from patient arrival to triage, to the time they are put into the room, to the time the physician sees them, when the decision to admit was made, when the orders were written, when the patient went to the floor, and what floor they went to," Maffei shares.

Recently, she says, her department has become a "no-wait" ED. "We found it was taking a long time to get the patient back to the department, so now we have a greeter who sits at the desk," Maffei says. "When the patient comes in they ask their name and date of birth, they give us a medical record number, and we can start ordering tests at triage that are pre-approved by the physician group," she says.

Helping Nurses Improve

Another benefit of the system is that it allows you to look at individual patient satisfaction scores for each nurse, says Maffei. The department's patient satisfaction scores from South Bend, IN-based Press Ganey were approximately in the 30th percentile, she says. "We were not doing well in this area, but **WEBEMARS™** has been extremely helpful in managing the department."

As lower scores were recorded with specific nurses, Maffei would review the scores with them. "Sometimes you think you are doing a wonderful job — but you're not," she notes. "We had a big problem [on Press Ganey surveys] around informing patients about delays."

The staff were devastated when scores were so low, Maffei recalls, but she was very supportive in her individual meetings with them. "You rarely have somebody who does not want to improve patient care," she says. "We would just go over a couple of little things about how to talk to patients." Maffei must have done something right; the department's scores now are consistently above the 90th percentile.

"In today's ED, it's a challenging time, not just for operations, but for dealing with regulatory groups like The Joint Commission, [Centers for Medicare & Medicaid Services], state departments of health, and so on," adds Bachenheimer. "These organizations look for data to support compliance as well as process changes, and a tool like **WEBEMARS™** can be extremely beneficial."

WEBEMARS™, he adds, is available for purchase using a pricing methodology of one-time upfront set-up costs plus a subscription cost based on the number of ED visits.