

**Electronic Automation Comes to the Small ED**  
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For more than five years, large emergency departments have been able to choose from Emergency Department Information Systems (EDIS) from several vendors. While most systems initially came from smaller emerging vendors such as Ibex, CodoniX, Emergisoft, Wellsoft and others, ED systems are now available from the major Hospital Information System companies such as McKesson, Cerner, and Meditech. These systems have traditionally been client-server based and cost between \$150,000 and \$1,000,000 depending on size, complexity and degree of integration with other hospital systems.

Of the approximately 5,000 emergency departments in the U.S. over 1000 of these see less than 15,000 patients per year. It is becoming harder and harder for these small emergency departments to maintain profitability or even stay in business. ED's across the nation are closing due to lack of funding. Large EDs while struggling, have economies of scale and more extensive information systems to improve productivity and increase billings. Small hospitals, unfortunately, do not usually have the funds to install the new EDIS systems that are providing these productivity and billing improvements at larger hospitals. Pen and paper and dictation and transcription still dominate patient documentation at these hospitals even though they are costly and inefficient at capturing all elements of an ED encounter.

So what's a small hospital CEO to do? The status quo means a continued deterioration of the ED's financial health, but without the money to purchase or lease the hardware and software for a traditional ED system there is little hope of improving productivity and billing efficiency.

Now however, there is an answer for these hard-pressed hospital emergency departments. Software vendors are beginning to address this dilemma by using a new business model to deliver high performance ED management software affordably to hospitals. This new paradigm of software delivery is often called an Application Service Provider (ASP) model. It provides users access to software over the Internet for a single monthly or annual fee. The advantage of this model is that there are no hardware or support costs required. The application is available to anyone with a broadband Internet connection and a workstation with a web browser such as Internet Explorer or Netscape. Today, companies such as Oracle, SAP, and WebMD are successfully providing users with secure access to their powerful applications over the Internet. These applications use encrypted data and redundant systems housed in secure facilities with 24-hour security and fail safe backup processes. Healthcare software meets the stringent requirements for patient confidentiality mandated by HIPAA. By using ASP software, small hospitals with limited capital and IT budgets can now afford to use feature rich ED applications that provide the same functionality and financial advantages of large hospital based enterprise systems.

One company that has made their ED software available in this new format, is CodoniX, a leader in emergency department automation. The CodoniX application has been proven in hospitals across the country for more than five years, and has charted more than two million ED encounters. The application has been licensed by one of the leading HIS vendors and is integrated into their emergency department application.

ASP software from vendors like CodoniX have features similar to those found in large HIS systems at a much more affordable cost. Triage initiates the documentation process with a chief complaint and acuity status and an electronic tracking board that is available and viewable by all users monitors the location and status of patients. Patients can be placed in the waiting room or in beds and patient time in department and bed status is automatically updated. Nursing documentation captures history and assessment and documents orders and physician documentation records all aspects of the patient encounter using point and click navigation. The resulting printed chart produced by these systems is more accurate than a dictated or hand written chart and most systems calculate the appropriate E and M level as well as printing additional billing codes. Some systems also include discharge instructions that can be printed and given to the patient when they leave the department. The use of an ED automation system has been shown to reduce costs as well as increase reimbursement and most systems pay for themselves in less than six months.

When choosing an ASP ED automation system, make sure that it is HIPAA compliant. It should use 128-bit encryption to ensure patient security and the system computers should meet the HIPAA standards for physical and data security. For example, the CodoniX application resides on its own computers that are housed in Dallas, Texas at one of the country's largest and most secure hosting services. However, if a hospital is hesitant about not having control of their own system, many ASP software products can be run over the hospitals own internal network. In this case, hardware and support costs may be higher than a true ASP model, but the use of industry standard Intel servers using the Linux operating system can reduce these costs significantly. Today high availability Linux servers that are powerful enough for most small hospital ED applications can be purchased for less than \$2500.

Usually, companies do not require a long-term contract for users of their ASP application. The licensing agreement normally provides access to the application on a month-to-month basis and the agreement can usually be cancelled at any time with no penalties. Prices usually vary depending on the number of users-for example CodoniX charges \$89 per month per user for a complete EDIS system. With an ASP application, there is absolutely no risk to the hospital. And as a hospital gains experience with the application and begins saving money, many systems allow the addition of additional features and functionality such as labs and orders interfaces and customized reports.

With an ASP application such as CodoniXnotes, small hospitals can begin enjoying the financial improvements that ED automation brings without the up front capital expenditures or high lease payments required for most large EDIS systems. Implementation times are usually measured in days not months, and savings are

immediate. Implementing an Emergency Department system using an ASP application is an important option for a small hospital to consider in their effort to improve the financial health of their ED.