



Carilion Health System

A comprehensive EDIS revitalizes an IDN's emergency services.

In most hospitals and healthcare systems, the emergency department (ED) is an admission path for many patients, as well as a major source of revenue for the healthcare organization (HCO).

Carilion Health System in Roanoke, Va., is a \$1 billion HCO, serving more than 1 million people in western Virginia. In the late 1990s, the EDs of Carilion's hospitals were ripe with opportunity. The EDs used paper systems and dry erase boards to track patients. The number of patients who left EDs without being seen approached 3 percent, and turnaround times for patients who were seen extended as high as six hours. The organization projected that, without improvements, these deficiencies, along with the resources needed to manage order-related medical errors, might total more than \$3 million in lost revenues.

Multiple Modules

After narrowing vendor selection to a short list of four, Carilion selected Integrated Clinical Management System (ICMS) from Wellsoft Corp. and targeted installation at five hospitals with a combined total of 140,000 ED encounters. The ICMS system has three components: 1) patient tracking; 2) clinical documentation; 3) computerized physician order entry (CPOE) and results reporting.

Carilion implemented the system for two facilities with help from Wellsoft, and then assumed total implementation responsibility beginning with the third facility. Most HCOs that implement an emergency department information system (EDIS) have little trouble with patient tracking and clinical documentation. But CPOE, the function that truly automates ED service delivery, is a component not every hospital embraces. For Carilion, CPOE was the biggest implementation challenge, since it required multiple interfaces to the organization's HIS, lab and radiology systems. But even this phase was completed by November 2002.

ICMS gave Carilion comprehensive tracking ability from ED admission through hospital discharge—and at the enterprise level, too. Complete information on procedures, tests, medications and inpatient admittance are available

at bedside in real time, solving the ED's biggest bottleneck. The organization cut its turnaround times by 33 percent, saved more than \$68,000 in eliminating paper charts and achieved a 3.4 percent reduction in the number of patients who left without being seen.

Just as significantly, Carilion estimates that it could have spent a minimum of \$14,161, or 833 labor hours, just to correct incomplete or illegible orders—a problem that went away with the CPOE implementation. Simultaneously, the HCO gained the ability to "snapshot" the hospital EDs for benchmarking and reporting purposes, strengthening its quality initiatives.

Recent Update

Senior Applications Analyst Walt Fisher reports that the EDIS is so entrenched at Carilion, ED clinicians consider it mission-critical, and that Carilion continues to push the EDIS envelope.

The IT department activated EDIS browser capability so clinicians can access both Internet and intranet applications, affecting about 150 thin-client workstations. Physicians already use an Agfa PACS; now they can open the ICMS system and then launch and receive patient images right at bedside in the ED. Carilion

also engineered isolation precaution alerts by interfacing data from the organization's HIS (Siemens Invision) to ICMS, to alert ED triage nurses of special infection or isolation needs.

Carilion developed a specialized disaster recovery plan that takes and stores EDIS screen snapshots every few minutes so that, in the event of unplanned downtime, ED personnel can print their patient-tracking records for a brief and temporary return to paper until the system is restored. Finally, using CCOW-enabled versions of ICMS, its ambulatory EMR and its PACS, the health system will be able to allow ED physicians to logon to any one application and directly launch one of the others, with user and patient context following them. Carilion expects that use of the EDIS with EMR and PACS applications may save up to five minutes per patient in the ED.

SOURCE

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PRODUCT/COMPANY

Integrated Clinical Management System

Wellsoft Corp.
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