

## Cutting Edge EMS Technology to Improve Patient Care

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Louisville's EMS crews are among the first in the country to use new handheld computers to wirelessly communicate patient information with local hospitals. The electronic patient care recording charts, or ePCRs, are designed to replace paper charts and enable EMS to provide a higher quality of patient care. Each of the city's 75 ambulances, fly-cars and supervisory vehicles is outfitted with an ePCR.

### Wireless Tools Speeds Communications, Monitors Symptoms

"Response times are critically important, and our EMS crews get to scenes faster than the national average," said Mayor Jerry Abramson. "But truly effective emergency medical care demands a holistic approach -- what happens when crews arrive is important, too. Using tools like ePCRs is one way Louisville Metro EMS is translating the latest medical research and best practices into real-time emergency medical care."

Before EMS introduced ePCRs, crews recorded patient information -- such as vital signs, injuries, pre-existing conditions and medicines administered -- on a paper chart given to hospital staff upon arrival. Crews said paper charts took a lot of time to fill out -- plus, the sheets were easily misplaced in the hustle of treating a patient in need of critical care. Now, paramedics and EMTs can record patient information on the electronic chart and send it wirelessly to the hospital while the ambulance is en route -- giving emergency room staff extra time to prepare for time-sensitive, critical interventions for incidents like heart attack and stroke.

"It's like a Blackberry for emergency medical care," said Dr. Neal Richmond, director of Louisville EMS. "Within moments of arriving on scene, not only will we have provided life-saving stabilization and medical treatment, but now we'll be able to rapidly communicate that information directly to the hospital. Later, we can review that same data to make sure we provided the very best medical care. The ePCR puts us on the sharp edge of pre-hospital emergency medical care nationwide."

Richmond pointed to the ePCR's "syndrome surveillance" capability as a critical benefit for a large city. The FirstWatch program collects incoming patient data from EMS and sends alerts when a cluster of similar symptoms develops -- anything from an undetected outbreak of avian flu to suspected anthrax exposure.

"The FirstWatch program is a critical component of our mission to be a data-driven agency," Richmond said. "Within minutes of reports of similar patient symptoms, we can alert every necessary agency -- from EMS to police to the health department -- to handle a potential community-wide health crisis. Before, it might have taken days to piece together a clustered outbreak."

The electronic charts are expected to make patient records more easily trackable, and should make billing easier for hospitals, insurance companies and EMS. EMS averages about \$11.8 million in insurance reimbursements annually -- a figure Richmond expects to climb after implementing the ePCRs.

"These electronic charts will pay for themselves in short order," Abramson said. "They'll have a dramatic effect on improving communication with our hospital partners, and patients will have an easier time tracking their own health records. This is a fine example of EMS working to be more efficient and more responsive to the needs of our citizens."