



EMS Responders Use Mobile Technology for Efficient and Accurate Patient Care

How Castle Rock Fire and Rescue Uses the Toughbook 30 and High Plains ePCR software to streamline processes and deliver the best care to their patients

The 70 employees of the Castle Rock Fire and Rescue Department protect the lives and property of 51,000 residents in the Town of Castle Rock and surrounding areas of Douglas County, Colorado. In 2002, Castle Rock decided to upgrade their emergency call documentation system. This project was initiated to ease the already immense burden placed on the department's EMTs and paramedics, who are responsible for recording all procedures and care rendered during an emergency medical call.

Prior to the technology upgrade, the paramedics relied on pen and paper notes, which required them to document every aspect of the patient's care from memory. As the team transported a patient, everything would have to be written in thorough detail and then transcribed on computers back at their station after they returned from the hospital.

This system presented significant challenges for Castle Rock. One was that information was often incomplete due to the difficulty of recalling every detail of a patient's care. The Department's paramedics were regularly conducting three or four runs at one time, making it incredibly challenging to remember the minute details of every patient seen at the end of a long day or night.

The team was also frustrated because the existing software on station computers would often lock up, causing them to lose critical information. Upon completion, reports would be faxed to the hospital, long after the patient first arrived.

After evaluating this procedure, the Department's chiefs knew it would be necessary to provide EMTs and paramedics with the ability to update patient information in real time. With that in mind, Castle Rock turned to a mobile computer and software system that would meet a Fire/EMS organization's diverse needs.

A Winning Combination

Castle Rock began addressing these challenges by equipping their medic vehicles with fully-rugged Panasonic Toughbook® mobile computers loaded with electronic patient care reporting (ePCR) software from High Plains Information Systems.

Castle Rock needed mobile computers that could stand up to the rigorous duties and obstacles of paramedics in the field, and they now rely on the Toughbook 30 to get the job done. The Toughbook 30 protects precious data with a magnesium alloy case, shock-mounted hard drive, and security features such as a hard-disk lock, trusted platform module, optional fingerprint scanner and optional Smartcard reader. The daylight-readable touchscreen and embedded mobile broadband capabilities also make it easy for EMTs and paramedics to file their reports from anywhere, at any time.

High Plains Information Systems provides a complete, fully-integrated fire records management system (RMS) that addresses nearly every aspect of a fire department's operation, from incident and patient care reporting to scheduling and payroll. The incident reporting component is both NEMSIS Gold and NFIRS compliant, making it an ideal choice for fire and EMS agencies.

Norris Croom, Division Chief of Operations at Castle Rock Fire and Rescue, has noticed a vast improvement in efficiency since implementing the solutions.

"Toughbook computers and High Plains software have improved our ability to do our job in the field, and significantly reduced the amount of time our EMTs and paramedics are out of service filling reports," said Croom. "Prior to this procedure, it was taking on average about 25-30 minutes after they returned to complete paperwork, and now it takes just a couple of minutes to complete and wirelessly upload a report. We are saving approximately 20 minutes per emergency call, and with more than 2,000 EMS calls per year, that time definitely adds up."

Thus far, the department's Toughbook mobile computers and High Plains software have surpassed Castle Rock's expectations for reliability. Despite multiple drops, vibration and exposure to extreme temperatures, none of their Toughbook computers have failed and no patient data has been lost since the initial deployment six years ago.

"We understand that our job is to make the medic's job easier, not more complicated," says Mark Cheline, founder and president of High Plains. "We worked hard to make our software simple and dependable, so it only makes sense to deploy it on hardware that also meets those standards. Panasonic Toughbook computers have been our platform of choice since 2003."

Helping Every Touchpoint in the Healthcare System

Castle Rock EMTs and paramedics are not the only benefactors of the Toughbook computers and High Plains software. The streamlined process has also increased efficiency at Sky Ridge Medical Center in Lone Tree, Colorado, the primary hospital receiving Castle Rock's patients. The new system coincided with the development of a performance improvement program at the fire department, and the upgrade has supported this effort. Paramedics can now document the care given to a patient before they arrive at the hospital by creating the report from their emergency vehicle while en route.

For instance, if a patient experienced chest pain, the hospital would immediately know whether aspirin had been administered. This timely information is essential to ensuring all patients receive the best possible care. The days of faxing these details hours after the patient's arrival are long gone.

Dr. Steve Heinz, Physician Advisor for Castle Rock Fire and Rescue at Sky Ridge, believes the new system enables more thorough patient care that also protects the hospital. "When a paramedic creates a report, they are generating both a medical record and a potential legal document, because eventually the entire treatment process may be subject to scrutiny in a courtroom. And from a legal perspective, if it wasn't recorded, it didn't happen. The High Plains solution provides built-in clues to document everything, allowing everyone responsible for that patient to be well-informed on the level of their care."

Castle Rock EMTs and paramedics routinely carry their Toughbook 30 notebook into the emergency room when dropping off a patient, to talk through the preceding medical care with an overseeing physician and print hard copies of the report.

"In the end, I have the responsibility to make sure that the paramedics are delivering the right care, said Dr. Heinz. "This system helps us streamline our process, eliminate errors, greatly increase our performance and deliver the best possible overall care to patients."

For More Information

Together, Panasonic Toughbook computers and High Plains software deliver a reliable, efficient and cost-effective mobile solution for fire and EMS agencies. To learn more about these solutions, please visit:

- www.panasonic.com/toughbook
- www.highplains.com/