Wi-Fi Platform Sends Lifesaving Data Between Ambulances, Hospitals

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Seconds can save lives — especially when a patient is being rushed to a hospital. And Wi-Fi platforms that transmit a patient's medical information from the ambulance to the hospital are helping to save time.

By installing this technology in its ambulances, Rowan County, N.C., is sending vital information to hospitals before a patient arrives, thus enabling better preparation and health-care response.

Rowan County installed wireless communication platforms in its 11 ambulances within the county's Emergency Medical Services Division so responders taking an individual to a hospital can transmit a patient care report to the facility prior to the ambulance's arrival at the hospital, said Frank Thomason, the county's chief of emergency services. The communication platform provides a Wi-Fi access point in the ambulances, making them function as mobile hotspots. Using laptops inside the ambulances, emergency responders fill out a patient care report and with the assistance of the communication platform, the information is transmitted wirelessly to the hospital.

Also inside the ambulances, cardiac monitors are connected to the communication platforms so if a patient is suffering from a potential heart attack, the information regarding the individual's heart rhythm is transmitted to the hospital before the ambulance's arrival, Thomason said.

"We can connect that cardiac monitor to [the platform]," Thomason said, "and we can transmit the heart rhythms — the EKGs — to the physician at the hospital and with that information ahead of time, the hospitals can prepare whatever's needed to best care for that patient upon their arrival."

Thomason said software was installed on hospital computers, which enables the health-care facilities to receive the patient care reports and cardiac monitoring information. Through the software, the information is received as an email and an attachment includes a graphic of the cardiac trace of the patient's heart rhythm. From there, the physician can take proper action upon the patient's arrival, Thomason said.

The communication platform — called the onBoard Mobile Gateway by In Motion Technology, a New Westminster, British Columbia, Canada-based mobile data communications company — functions as a multi-network that communicates across an enterprise's fleet so multiple users in the field can communicate with one another, according to In Motion Technology. Multiple devices can connect to the platform by Wi-Fi, Bluetooth, USB, Serial and Ethernet, and it can also function as a multi-radio mobile router.

Thomason said the county's Emergency Services Department initially rolled out the technology two years ago in the Emergency Medical Services and Emergency Management divisions, and is currently implementing the system in the Fire Services Division, which is responsible for the county's 28 fire departments. The technology was paid for from the department's general fund.

The Emergency Services Department originally implemented the system as a way to convert its paper-based field reporting to an electronic system. The Emergency Management Division uses the technology create reports about incidences in the field, such as hazardous material spills or activities involving extreme weather recovery, that are transmitted wirelessly back to the department.

"Using our laptop computers and utilizing the [onBoard] Mobile Gateway gives us the ability to access those electronic reports directly from the field and to be able to write those reports right there in the field," Thomason said.