

Health information exchange conquers new frontier: Emergency medical services

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John T. Finnell, M.D., is a Regenstrief Institute investigator and associate professor of emergency medicine at the Indiana University School of Medicine. Credit: Regenstrief Institute, Inc.

Emergency medical responders typically know very little about the patients they treat at mass disasters, accident scenes, or other sites where an ambulance is dispatched for rapid response. That's true everywhere in the United States except Indianapolis, the capital of the most health-wired state in the nation.

Regenstrief Institute investigators are the first in the nation to link emergency medical services providers (emergency medical technicians

or paramedics) in the field to patients' preexisting health information, a link enabling the emergency workers to make more informed treatment decisions and to transport patients to the most appropriate facility.

Typically, EMTs and paramedics lack even basic access to pre-existing patient information when delivering patient care in the field or at the scene of a single or multi-casualty incident. Improving access to this information can significantly enhance the quality, safety and efficiency of the care they deliver.

"Electronic medical record technology has been widely recognized for its role in improving quality of care, increasing efficiency of health-care delivery, preventing medical errors and enhancing patient safety," said John T. Finnell, M.D., the Regenstrief Institute investigator and associate professor of emergency medicine at the Indiana University School of Medicine who developed the link between electronic medical records and emergency treatment in the field. "Using Regenstrief research and technology, metropolitan Indianapolis is the only place in the country that is able to securely push health-care data to medics in real time, which can impact the pre-hospital care provided," he said.

Regenstrief investigators developed the continually expanding Indiana Network for Patient Care. INPC allows emergency department clinicians to securely obtain patients' medical histories, providing the ED provider with critical information about his or her patient. Now INPC's capability has been expanded to help patients who need emergency treatment outside a medical facility.

To develop this interface between those who convey care in emergency situations and the medical histories of individuals who need this assistance, Regenstrief physician researchers had to overcome numerous and significant communication, technical and security issues.

Enabling emergency medical responders access to such information as previous conditions and treatment, allergies and other critical health information can significantly improve effectiveness, efficiency and safety of patient care for a large number of individuals.

Annually [emergency medical services](#) providers carry out more than 16 million medical transports in the United States. Mass catastrophes such as Hurricane Katrina have underscored the value of accessibility to pre-existing patient information in disaster situations.

In metropolitan Indianapolis that information is now at the fingertips of emergency responders. For example, on a recent ambulance run, paramedics from Wishard Health Services encountered an individual with diabetes who, according to family members, was exhibiting abnormal behavior. Once the paramedics found the patient's blood sugar to be within normal limits and ruled out diabetes as a likely cause, they turned to INPC for reliable and helpful information on the patient's past medical records to discern other possible reasons for the patient's abnormal behavior.

Today the emergency responders of eight ambulance services in Marion and Hamilton counties, Indiana have the capability to securely access the electronic medical records of the patients they are trying to save.

Research leading to extension of [electronic medical records](#) to the ambulance was supported by a grant to the Regenstrief researchers from the U.S. Department of Health and Human Services and the Department of Homeland Security.

Source: Indiana University School of Medicine

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