

TIMING EMS

Staffing & deployment patterns matter

An ambitious study by a coalition of fire-service organizations conducted experiments this spring to find out if and how EMS staffing patterns affect the time it takes responders to accomplish various tasks at an EMS scene. The International Association of Fire Fighters (IAFF), International Association of Fire Chiefs, National Institute of Standards and Technology, Worcester Polytechnic Institute and Center for Public Safety Excellence are conducting the “Multi-Phase Study on Firefighter Safety and the Deployment of Resources” to determine what staffing and deployment of resources work best when responding to a variety of fire or EMS events.

Preliminary results released at the IAFF EMS Conference June 8 show that the number of paramedics deployed and how they arrive on scene does indeed make a difference. “We looked at virtually every aspect of time-to-task, and we saw some very, very interesting data,” says Lori Moore-Merrell, DrPh, MPH, EMT-P, special assistant to the IAFF general president and a principal investigator for the study.

Montgomery County (Md.) Fire Rescue Service (MCFRS) and Fairfax County (Va.) Fire & Rescue Department (FCFRD) performed the EMS “field experiments” in April, using 15 different staffing and deployment patterns to respond to two simulated incidents: a trauma involving a fall from a ladder in a hard-to-access construction site and a cardiac arrest call requiring CPR and the transport of a patient down several flights



Firefighters/paramedics and EMTs from Montgomery County, Md., and Fairfax County, Va., participated in experiments that found more first responders cut scene times and ALS engines make a difference.

of stairs. “Each experiment was run with all 15 scenarios and we ran each of those scenarios three times,” says FCFRD Capt. Philip Pommerening, NREMT-P. “This was to measure the time to access the patient, do a basic medical history, start an IV and package the patient on a backboard.”

On the cardiac scenario, the experiments found that two paramedics (whether both arrived on an ambulance or one on an engine) performed all tasks two minutes faster than when only one paramedic was on scene. When a two-person ambulance crew responded with three first responders, tasks were performed 1.5 minutes faster than with only two first responders, and adding a fourth first responder cut another 1.2 minutes off those times.

On the trauma scenario, the scene time differences were even more dramatic: “Crews with one paramedic on the engine and one on

the ambulance performed 1.8 minutes faster than crews with one paramedic on the engine and a BLS ambulance,” Moore-Merrell says. “Crews with two paramedics on the ambulance took about 2.3 minutes longer to finish than crews with one paramedic on the engine and one on the ambulance.” Having three or four first responders on scene also significantly cut times when compared with two first responders and a two-person ambulance crew. She stresses that this data is “preliminary, with many details to come.”

“This was a lot of work, but we actually had fun doing it,” says MCFRS Assistant Chief Michael McAdams. “It was exciting to watch; intuitively, you understand it should take longer with

two people providing care, but when you see the difference with two and with three and four and five people, it’s incredible!”

“We don’t want just two people carrying full-grown patients down stairs—for our safety and the patient’s safety,” Pommerening says. “With a two-man crew, you’re going to end up walking some patients who shouldn’t be walked and have paramedics with back injuries.”

“EMS is very labor intensive and takes a toll on the body,” Moore-Merrell says.

“This time-to-task study should provide some data to help departments and communities make data-based decisions. It should help us say, ‘This is what we can do; if you want us to do more, these are the resources we must have,’” McAdams says. “I think this is a very important step forward in EMS history.”

—Mannie Garza

QUICK TAKE

FAKE MEDICS EXPOSED FLU: Two reporters from *El Diario Despertar*, a newspaper in Oaxaca, Mexico, disguised themselves as paramedics to gain access to a hospital after getting a tip that patients were showing up with a unique kind of flu. “They quickly realized that the hospital was seized by alarm,” the *Los Angeles Times* reported. “Queries from *Despertar* forced Oaxaca health officials to go public on April 16—a full week before a national emergency was declared over swine flu—with news of a deadly ‘atypical pneumonia.’”

>> IN BRIEF: Ambulance cleaning guidelines at www.pandemicflu.gov/plan/healthcare/cleaning_ems.html