

# Verizon teams with MCG to test cutting-edge technology

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A handheld device that could mean the difference between life and death for some heart attack victims is under development with input from doctors at the Medical College of Georgia.

With a \$50,000 grant from the Verizon Foundation, the MCG Center for Telehealth is working to determine if a wireless device, similar to a smart phone, can be used by cardiologists in rural areas to read electrocardiograms transmitted by first responders.

“The Verizon Foundation is very interested in using technology to improve healthcare delivery for all people whether they live in an urban area or are in a rural location,” says Dr. Max Stachura, a lead investigator on the grant, director of the MCG Center for Telehealth and Georgia Research Alliance Eminent Scholar in Telemedicine. “In cardiac events, you typically have 60 to 90 minutes to act. In rural areas, treatment decisions often have a lot more to do with distance than time.”

The basic idea, Dr. Stachura says, is that if cardiologists can see a patient’s EKG immediately, they can make important treatment decisions such as whether to have first-responders deliver clot-busting drugs at the scene or drive further to a hospital better equipped to treat the patient. Electrocardiograms are standard tests that show the heart's electrical activity.

“At larger hospitals, like MCG Medical Center, there is a cardiologist there 24 hours a day, seven days a week,” he says. “Rural areas, on the

other hand, may lack resources to the extent that a longer drive to a better-equipped hospital is a wise trade-off.”

Drs. Guy Reed, chief of the MCG Section of Cardiology and Georgia Research Alliance Kupperman Eminent Scholar in Cardiovascular Medicine, and Elena V. Khasanshina, associate director of the Center for Telehealth and assistant professor of medicine, are co-investigators on the grant.

“This first step is only a part of the bigger picture,” Dr. Stachura says. “The critical question is whether you can even display an interpretable, 12-lead EKG on a device that’s either on the market now or nearly ready for the market. This whole thing makes no sense unless there is a reasonable, portable, wireless multi-functional device – what we want is a device that allows the cardiologist to get the call, view the EKG, interpret it and communicate the treatment decision.”

Over the next few months, Verizon will send the MCG team its marketable and near-marketable phones for testing.

“The next piece is to work with a database of already-diagnosed digital electrocardiograms,” he says. “We’ll know how they were officially interpreted the first time and then be able to tell whether this will really work.”

“We’ll put together teams that will look at these and say, ‘This will work. This won’t work,’” he says. “This close partnership with the Verizon technical people will allow us to provide our input to people who are developing the next generation technology.”

“Verizon is pleased to partner with the Medical College of Georgia on such an important healthcare initiative,” says Michelle Robinson, senior vice-president of Verizon. “We are proud of the work Dr. Max Stachura

and his team are doing.”

Dr. Stachura and his team hope to identify a device that will work by September. MCG then would work with the Verizon Foundation to obtain funding for the next step.

Source: Medical College of Georgia

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