

## Auto companies branch into mobile health

By Pamela Lewis Dolan  
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The definition of "mobile health" is about to become a lot more literal.

Ford Motor Co. recently demonstrated projects that use SYNC technology to create wireless communication between the car and remote health devices and monitors. SYNC technology functions as a voice-control system to connect the car to a driver's mobile phone, MP3 player, radio and other systems.

Several car manufacturers make different versions of the technology, also known as in-vehicle infotainment. For example, OnStar, a subsidiary of General Motors Co., announced plans this year to add a feature that would read out Facebook updates to drivers. OnStar added a First Assist service last year that gives callers real-time, step-by-step guidance from a medical professional for things such as CPR in an emergency situation until help arrives.

Ford has taken it one step further by partnering with well-established medical device and mobile health companies to deliver real-time health monitoring and tracking. It announced partnerships with the mobile health vendor WellDoc; medical device manufacturer Medtronic; and SDI Health, developer of an allergy information website.

Some of the projects they are testing include:

**Glucose monitoring.** Medtronic offers a continuous glucose monitoring device. The company has developed a way to sync the device to the car through Bluetooth. It can share glucose levels on-demand through the car's audio system and on a display on the car's center stack. If levels are too low, an alert is sent to the driver warning of a possible health emergency that could affect his or her ability to drive.

**Patient coaching and education.** WellDoc has numerous cloud-based solutions that patients can access through their smartphones and other portable devices. Through the connection with Ford, those devices would connect with the SYNC system when the patient turns on the car. It would check in with the driver about health status based on historical data. Patients could update their health profiles in a hands-free environment and request real-time patient coaching or receive medication adherence support while on the road.

**Allergy alerts.** SDI Health is making its mobile application accessible hands-free in the car to provide location-specific, daily index levels for pollen, asthma, cold and cough and ultraviolet sensitivity. Drivers could request this information hands-free while driving.

Ford also is working with the Massachusetts Institute of Technology to develop technology related to heart rate, stress and relaxation, and the correlation between stress and driving ability.

So why would Ford get into health care? "It's less a question of Ford wanting to monitor patients and more a chance to make the lives of our passengers easier if we could," said K. Venkatesh Prasad, group and technical leader of infotronics research and advanced engineering for Ford.

He said he doesn't see these services as being standard in all cars, but rather as options available to drivers for might need them. Though there are no current plans to take these ideas to the market, they could come within two years, Prasad said.

The automobile "lends itself to some element of privacy," he said. Being able to use the time alone in the car to do quick health checks is one way drivers can take advantage of the time they spend commuting, Prasad said.

### **Help or hindrance?**

Some have criticized these ideas as distractions that could result in a dangerous situation for drivers. The critics include David Strickland, administrator of the National Highway Traffic Safety Administration, who, in an ironic statement that got plenty of press, said, "A car is not a mobile device."

U.S. Transportation Secretary Ray LaHood has threatened to restrict on-board infotainment systems. He decided this year to hold off until more testing is done on how the systems affect a person's driving ability.

Prasad agrees that there are technologies that don't make sense for use on the road. The idea is to find solutions that people will find useful and won't cause a distraction, he said. The goal of SYNC was to make the technology that drivers want access to -- such as cellphones and music -- safer to use. If there are certain health tools patients could find useful, Ford wants to create safe access to them as well, he said.

The Insurance Institute for Highway Safety said tests have been unable to show any benefit to hands-free devices.

"Hands-free phones may eliminate some of the physical distraction of handling phones, but the cognitive distraction from phone conversations remain," the institute said in an online question-and-answer forum on its website.

Anand K. Iyer, PhD, president and chief operating officer of WellDoc, said the way the drivers interact with the technology could make them safer.

Iyer said, if a driver has a low glucose reading a half hour before he or she gets into the car, the system would ask questions gauging the ability to drive. For example, it would ask if the level was measured since the last reading or if the driver had eaten since then. The driver would have the ability to do the reading again and get feedback on whether it's safe to drive.

William Kaiser, professor of engineering and co-director of the UCLA Wireless Health Institute, said having the ability to do health monitoring in the car might help some patients remain compliant.

"At home and in the workplace, people are distracted," he said in his keynote address at a Ford media event to demonstrate the devices. The technology allows them to exploit the downtime they have in the car, he said.

Iyer said physicians need not worry that their patients' constant access to information will result in being overloaded with information. He said WellDoc was created as a way for patients to receive real-time feedback from FDA-approved technology. The data is then placed in a logbook that physicians can access at their leisure, usually when they see the patient.

This constant monitoring actually will help physicians, he said. They will have a clearer picture of what's going on with a patient by eliminating the monitoring gaps created by the time patients spend in the car, he said.

"What is so logical now would have been in the realm of unthinkable five years ago," he said.