

The Medical Market: No Panacea for Economic Woes **ESC panelists see tough going in the short term, with healthcare reform the likely culprit**

By Murray Slovick

[Embedded.com](#)

(09/22/09, 10:34:00 PM EDT)

Only a spoilsport would say so, but contrary to widespread belief the medical market will not be the short term savior that recession-strapped embedded hardware and [software](#) suppliers hoped for.

That's the sobering conclusion of experts on the ESC panel "Medical Systems Trends and Opportunities."

Steve Ohr, Research Director, [Analog](#) and Power Semiconductors at Gartner Dataquest, explained that healthcare spending currently is wholly dependent on the insurance system, and if your insurance company pays for CAT scans, he said, your doctor will be less ambivalent about ordering one for you.

But that may soon change. Ohr anticipates difficult conditions ahead, laying much of the blame on the current political debate over healthcare reform, which, he said "will change the structure of how we get paid." Ohr added that [compression](#) of payments made by insurance companies for tests taken by patients will cause a ripple effect all the way down the technology food chain.

Ohr sees a rather more mundane near term (2 to 5 years) opportunity for telemedicine than the futuristic [wireless](#) remote systems we have been told to expect. The practical version of telemedicine, he said, is to have nurses coming to the home of a sick or disabled person, take their blood pressure and vital signs and transmit the data via telephone [modem](#) to the doctor's office.

Discussing the impact of the current economic environment, Mir Imran, chairman and CEO, InCube Laboratories, predicted that far fewer technologically sound remote patient monitoring applications will be viewed as economically viable. Health care reform, he said, is focusing on cost containment and that is going to result in more products under development becoming financially unfeasible to bring to market. Imran noted that of the \$2 trillion currently spent on health care in the U.S. only \$100 billion—or less than 5%—is spent on medical devices.

The InCube CEO described what he termed "an acid test for whether new technology has a viable market." Said Imran: "Ask the question, does it impact a patient's outcome? If the answer is no I don't think the product will be successful in this environment." As examples of products that can impact a patient's health in a positive way Imran offered implantable devices for obesity, epilepsy and chronic pain, all of which, he said, "will drive reimbursement."

TI Medical Marketing Director Steve Dean still thinks there is a market for remote patient monitoring, but agreed that it is still "some time out, since there is currently no system in place for the provider to be paid for supplying patient data remotely." In the meantime, TI's objective, according to Dean, is "to reduce development time and cost by offering complete solutions in hardware and software so all a customer has to do is integrate its own IP."

Dean believes that while medicine's big iron—MRI and CT scanning machines—may be capital constrained, potential still exists in the market for smaller, portable [imaging](#) units.

Al Wegener, CTO and Founder of Samplify, noted that the U.S. is not the only country in the world whose government has created an economic stimulus package. China, he pointed out, is spending huge amounts of money trying to improve the healthcare of its citizens. Wegener,

whose company makes [data compression](#) products, smiles at the thought of ultrasound equipment being sold to every hospital in China.

Despite difficult market conditions forecast for the near term, National Instruments Business Development Manager Newton de Faria expects an expanding customer base, with entrants to the medical device arena coming from an unexpected source: pharmaceutical companies. These companies, he said, are developing products that not only provide drug delivery, as in the past, but now also [function](#) as diagnostic equipment.

de Faria stressed the importance of software reliability and validation as critical to success in the medical market. He emphasized that it is difficult to get right, especially in light of FDA's stringent guidelines for verification and validation. And if the software for medical devices is involved in a safety critical application (such as life support), de Faria characterized the approval process as becoming "exponentially more difficult."

On the R and D front, according to MIT professor of Electrical Engineering Charles Sodini considerable research at the University level is being focused on the body/sensor interface. That is, sensors that can readily convert body signals into electrical signals and do so in a way that makes it comfortable for the patient (such as embedded in clothing rather than directly on the body).

In response to moderator Patrick Mannion's (Editorial Director, TechOnline) question "If you had a son or daughter would you advise them to enter the field of medical electronics?" Sodini said: "I tell my students there are application spaces for electronics in medicine, but they should think on a system level, think beyond just chips."