

The Promise of Connected Health

By Cindy Atoji

July 24, 2007 | The future of healthcare lies in “connected health,” says Joseph Kvedar of Partners Healthcare — these are initiatives that apply communications technology and online resources to improve the delivery of quality patient care. Kvedar is founder and director of the Center for Connected Health, which works with Harvard Medical School-affiliated teaching hospitals, including Massachusetts General and Brigham and Women’s, both in Boston. Kvedar, who is also vice-chair of dermatology at Harvard Medical School, is a past president of the American Telemedicine Association (ATA). He spoke recently with Digital Healthcare and Productivity about the promise of connected health.

DHP: Connected health denotes a range of telehealth, remote care, and disease and lifestyle management applications. But what are the technology challenges and prerequisites required in order for connected health to occur?

KVEDAR: We use a lot of helpful off-the-shelf technology in our programs, but having said that, the technology is not as intuitive or user-friendly as we might like. I often say ‘it’s not Ipod simple yet’ — you can’t simply take something out of the box and plug it in; there are few elegant user interfaces. We have to spend a lot of time training patients how to use equipment, and that’s an added cost we’d like not to have.

The other challenge is that we want to make patients feel cared for, not just monitored, and there are limitations to Internet-based text communication. A routine high-blood pressure visit can be done by having a secure e-mail dialogue, but something more life-effecting, like a first cancer diagnosis, you want to be face-to-face with that. We want to push the communication side of the technology to be more lively.

Cellular or wireless has the most promise because this technology is ubiquitous even in areas where we formally felt we had a digital divide problem. But it needs some work to be effective. There are dead spots or zones where cellular doesn’t work effectively and when the network is not robust enough. It’s one thing if my teenager is text-messaging and it doesn’t get through, but if it’s my blood sugar and it needs to get to my provider, it’s a whole other matter.

DHP: Along with Kaiser-Permanente, Partners is one of the founding provider organizations in Continua Health Alliance, launched last year. How is Continua working to make personal telehealth a reality?

KVEDAR: Continua is now a consortium of 122 companies. Our vision is that it will achieve or ratify certain standards for equipment to plug-and-play in the home telehealth space. I like to use the analogy of a USB cable, where you merely have to plug it in, and the computer will find the right printer and download the correct software. This is what we hope Continua will do. If the devices are easy to use and certified, then patients can

use them and doctors will feel comfortable recommending them. An equivalent of an Underwriter's Laboratory-type certification.

DHP: For connected health to work, don't you need to find new reimbursement models?

KVEDAR: That's true. Although there are exceptions, there are no real reimbursement models that reward better care and improved adherence to therapy. Sometimes as healthcare providers we find ourselves in a paradoxical situation where we are trying to do the right thing but can't extract revenue from the system to sustain it. Here at Partners, we are excited about Pay for Performance and trying to take a national leadership role in moving it forward. We think Medicare will go in that direction and with our local payers we have already gone there.

Medicare is experimenting with any number of reimbursement models, and they all have a common theme of reimbursing high-quality care and measuring outcomes. One Medicare demonstration project underway at Mass General is called Care Management for High-Cost Beneficiaries — they pay us a management fee and ask us to lower the cost of caring for some very sick patients; if we do that, we can keep or return this management fee. That really starts to put provider organizations in the same kind of risk-sharing agreement that a health plan might be in if they contract with Medicare. We call it Capitation Lite.

DHP: You're leading some innovative research in a variety of medical specialties. What are some of these programs?

KVEDAR: We apply remote monitoring for congestive heart failure patients, giving them a set of technologies and a tablet device that takes readings and allows them to do touch-screen answers to questions about their condition. This goes over a phone line, gets captured on a central server where some rules are applied, and clinicians watch dashboard results. We have cut down the re-admission rate of this population from 25 to five percent as a result of this program.

We also do hypertension monitoring for EMC employees; they take blood pressure readings which are automatically recorded over the phone line where, again, rules are built up on the back end that apply clinical logic. This program is innovative because it's a provider working directly with an employer, not a health plan. This technology comes as a direct employee benefit, not from a physician.

Other programs are 'smart pill bottles' that remind patients to take their medication as well as testing the effectiveness of a computerized avatar as a weight loss coach. All these will hopefully make healthcare convenient for patients, improve workflow efficiency, and ensure cost-effective preventative care.