

## What Is the Future of Health Care, and What Are We Doing?

Robert Mootz, DC

I have a really amazing day job. After a good decade each in chiropractic practice and chiropractic academia, I've spent the past decade doing a health policy and health services research gig. I have been able to observe, collaborate and (at times), dare I say, *influence* the direction health care is moving (albeit by a fraction of a degree) in one teeny corner of the universe. I've seen a lot from a vantage point unfamiliar to most practitioners, learned more about how the greater health care world plods along under its own incredible inertia, and engaged the problem-solving processes in play within the government, private sector and academia.[BANNER]

Every now and then I get to sit in on some pretty ether-breathing experiences. One recently involved a day-long discussion with a group of high level state officials meeting with a low key nonprofit science foundation populated by a bunch of big name companies' CEOs, university presidents, researchers and the like. They are putting together their brains, resources and technology to overcome a bunch of the world's health care problems, principally people power, information infrastructure, cost, access, health care planning and application (i.e., high quality clinical practice and evidence-based decision making).

The primary worker bees on this particular venture include an interesting expatriate mix of physicians, consultants, IT and software folks, as well as people from other fields such as sociology. This particular foundation is set up to have it all donated. Many are "part-timers" and a few, depending on the level of their financial success in previous work, are full-timers. The research, development and pilot testing is funded by some foundation activities such as physician training, philanthropic donations, research grants and the like. This one also is set up with an "ethical firewall"; no player can get any economic benefit from the foundation work (investments, etc). Very strict conflict of interest regulations are in place for corporate donors. It's like the open-source model of software development (i.e., Linux or Mozilla Firefox) and the creative commons model of artistic creativity, where one's music or artwork goes straight into the public domain - but applied to health care R&D and hopefully to delivery for at least the basics.

At this stage, a great deal of work has been done on the technology side. For example, the foundation, which is physically located within the campus of a major medical institution in Seattle, has about the highest tech operating room imaginable, as well as an amazing anatomy lab that would be the envy of any medical school. These facilities are outfitted with high-resolution cameras and are utilized by medical training programs to broadcast via forums such as the Research Channel ([www.researchchannel.org](http://www.researchchannel.org)). In addition to medical education and skill dissemination, oodles of policy and think-tank forums are done. They are trying to pull together a critical mass of folks to improve health care.

Perhaps the most interesting initiative (to my way of thinking anyway) is the development of virtual pilot projects where groups of thinkers get together using high resolution computer gaming

technology to have meetings, plot out health care delivery experiments in computing environments like Second Life (Google it if unfamiliar), and try out things before interfacing with the real world. The idea behind the virtual model is that the price of admission is relatively cheap. Bright and busy people can engage in an entertaining virtual "gaming" kind of experience without the cost of travel, using currently available technology. Aside from the sociological experimentation for which Second Life is most widely known, a potential health care application is access to some basic, individualized, health care consultation in remote places where the only access to health care might be an Internet connection.

Imagine the next step of telemedicine that requires fairly low-cost infrastructure for which current technology exists (basically a computer, Internet connection, cheap heart rate/blood-pressure monitors, finger stick blood droplet analyzers, etc). Motion sensitive digital input capabilities (like the glass on the iPhone) are now being produced on flexible film. R&D is underway for this, which has application for things like gloves and clothing. Applications might be using this to capture natural motions to input information (instead of up arrows, mice or joysticks). One can envision an office visit for a sick child in a remote third world village, with infectious disease specialists online in real time, where the best physical access might be an occasional visit from a Red Cross volunteer. Could a spinal motion exam be done virtually with such technology?

My point in talking about this is not to "wow" about lofty people getting together to solve problems or to revel in technology advances. Rather, it is to illustrate an example of next generation, out-of-the-box thinking. Got kids? Kids got video games? Have oodles of electronic devices sitting around the house that can connect to cyber networks? Did anyone deal with the holiday rush last year to procure a Wii game? Know anyone who downloads "free" music? What's changing is that knowledge and conventional wisdom about intellectual property ownership is becoming increasingly open source. Does anyone think Microsoft's conventional model (and cash cow) of corporate software licensing is viable in developing societies like China and India? If viable work-arounds emerge, they certainly would filter back over here into the hands of the next generations' business start-ups. Will applications be going the way of music industry recordings, where any kid can produce a professional quality recording in their bedroom?

The point is that significantly increased basic health care knowledge and access to more expert knowledge already has changed health care consumption. High health care and energy costs are driving both altruistic folks and hacker geeks to find cheap work-arounds. The current generation of business executives (having been raised on a social structure for which the old rules don't apply) are looking at alternative ways to find revenue streams.

In my opinion, the most amazing part of it all is the accelerated rate of both innovation and adoption of technology. How many computers have you bought this decade, compared to, say, refrigerators? Just how ubiquitous was e-mail as a form of communication a decade ago? As a resistant curmudgeon refusing to be assimilated into the world of mobile phones, I am increasingly frustrated by the complete non-availability of working payphones in hotels. And when you can find one, the cost to access one using a phone card is more than a dollar! Changing revenue streams? How much do you spend a month to "connect" to electron transmission each month (Internet, cable TV, cell phone), compared to 10 years ago?

How is chiropractic going to fit within the health care environment of the future? Today there is much greater knowledge about biomechanics and movement. A self-care revolution regarding exercise and

rehab is in full swing for uncomplicated musculoskeletal conditions, and even quick-stop massage bars are popping up wherever there is pedestrian traffic. Are chiropractors doing any thinking outside the health care delivery box? Are there any chiropractic "virtual think tanks" exploring what kind of value added might we bring into a digital economy?

At this point, I don't have any profound answers to get up on a soap box for, nor do I think people will stop needing and wanting to have their spines adjusted. But the way that is done will surely morph as technology and society continue to evolve. Despite my current lack of definitive ideas for digital chiropractors, I have a new "filter" through which to run some of my usual thought process. Some of the "take-aways" I had from this experience include the following:

- The answer to a question of a former developer for a big time software giant about why he left his high-paying job to work for free: "I really like IT innovation; I really want to make a difference; I pretty much have all the money I'll ever need; and I just no longer want to innovate and make a difference under the constraint that it has to be compatible with the last version of Microsoft Office."
- Answer to a question about if everything electronic came to a halt because of a power grid failure or an electromagnetic pulse terrorist attack: "We don't have time to get into it today, but the short answer is 'photons.' They are cheaper to move than electrons and don't degrade. There is a tech group that is putting just as much work into getting the power grid moved underground and switching communication to fiber optics (the latter of which already is well underway around the world)."
- Answer to a question about the biggest challenges in implementing open access health care: "Its not technology. We have everything we need off the shelf available at only a percent of the cost of the current brick-and-mortar and fuel costs, not to mention the efficiencies of time travel reduction, traffic delays, etc. We even have the technology to resolve IT communication problems related to medical records, encryption/privacy, etc. The only real challenge we face is human nature's resistance to change and a crisis of will."
- Another overheard comment: "The next generation is already primed to be productive virtually. Movies like 'The Matrix,' real-world input devices like the iPhone and Wii, and computer games are part of the under-30 group today. But so far, only the gaming geeks and entrepreneurs aimed at return on investment have embraced these tools. Because of this, the technology has been able to mature really well. Developing and implementing content for public and social good to input into peoples brains via these tools is what's underdeveloped, not the technology."

Although I didn't hesitate to offer my two cents, including asking about high-tech health care gizmos romancing us away from the real time nature and need for physical human contact, and expressing concerns that the more cyber we become, the more sedentary we become. That prompted one of the health care geeks to inquire of one of the computer geeks if there was a chiropractor on one of the Wii projects. Some days, I think we health care types talk amongst ourselves too much when we should also be talking with the community at large about what the world needs and how we might be able to bring something to the table.

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