Assisted Living Today Interviews Noted Futurist Dr. James Canton

Futurist, digital entrepreneur, and author James Canton Ph.D. envisions a future where cyberdoctors perform noninvasive procedures, robots deliver medications to residents, and virtual intelligence devices deliver e-learning opportunities. These technologies are only years away, he asserts, and coming soon to a senior housing community or health-care facility near you.

Canton, author of Technofutures: Leading-Edge Technologies for the 21st Century, was a keynote speaker at ALFA's 2001 CEO Forum, February 2-3. He discussed how senior housing and care providers could adapt, profit, and better compete in the new economy. He spoke with Assisted Living Today recently about the technological challenges and opportunities ahead for providers.

Assisted Living Today: In your book, Technofutures, you talk about the emergence of telemedicine, virtual patient monitoring, and other technologies as common practices in future health care. How can senior
housing communities began preparing now for these future realities? Will the availability of these types of resident monitoring and care be key differentiators in the future? In other words, if you don't have them, can you expect to lose out to the competition?

Canton: I think there are two elements to this. First, what is going to

make your business more efficient or productive and more cost effective? The other part is being able to provide customers with the best care and the best service. Many of these technologies are available today and they will become more and more available. There is a large percentage of baby boomers coming into the market and people who are looking for assisted living care earlier on. My mother-in-law, for example, is only 65, but she has been attracted to different kinds type of assisted care because, although she does not need a tremendous amount of nursing care or ongoing ambulatory services as such, the idea that she would be in a supportive environment that would enable that at some point is very attractive. I think that we are going to see, over the next two or three years, the opportunity to integrate these technologies.

As a customer, if I have to choose between a facility that is not necessarily on the leading edge but has this kind of network enterprise, or what I call the value network, with all these technologies integrated to give better support, I am going to choose that one over the one that has not made investment in these technologies.

AL Today: To what extent are retiring baby boomers going to expect leisure-type high-tech tools to be at their disposal in their senior housing communities? How will their expectations (in terms of technology) be
different from those of today's seniors?

Canton: I think that tomorrow's seniors who have had access to fast bandwidth lines and have spent a lot of their time doing their work freed from distance-using the Internet, e-mail, teleconferencing, and video
conferencing, and maybe even have had some exposure to e-learning-are going to be looking for some more opportunities in the assisted care environment. The industry needs to be sensitive to the new population of aging baby boomers who are a lot more tech-savvy than any other generation. They are
going to be looking for a tech-savvy assisted living environment that will give them equal to, if not superior, lifestyle improvement tools to

be able to continue at a level that they would like to.

They may want to communicate with family, continue to work, maybe take new e-learning courses or virtual learning, or there may be even other attractive ways of assisted learning. Assisted living residences can actually learn from the customer base that is coming in and adapt accordingly. For instance, have an e-learning relationship with some of the leading online universities for continuing education. Or provide some kind of special group rates for those seniors who not only just want to continue their education but maybe want to buy special packages for video conferencing. Not everybody might want that, but some might. Or be able to conduct or find new business opportunities where they could be in mentor
programs for other folks online.

I just think there is a tremendous opportunity for the assisted living industry to look out over the horizon, given the population that is going in now, and think about how they can differentiate themselves better. How can we use technology to attract and retain folks and be able to give them a quality of life, lifestyle empowerment tool that will help them live longer, happier, and healthier lives?

AL Today: Senior housing, assisted living in particular, is a personal business. Day-to-day caregivers and marketing staff develop relationships with residents-relationships that improve quality of life and even health. Your book talks about the emergence of artificial intelligence, cyberdocs, etc. Do you see them becoming a part of senior housing? Doesn't that detract from the personal aspect that's so critical to this industry?

Canton: I think inevitably whether it is a virtual doc or it is an agent habitat [Were you saying "aged" or "agent"-can we define that here?], the whole notion that there would be these virtual personalities that would be either companions or provide specialized kinds of services whether monitoring or pain monitoring, or medicine monitoring, or actually providing tele-diagnostics, this technology is going to be very big. When you have a wired environment, all of the sudden these other applications, whether

telemedicine or telediagnostics to monitor people, become more possible and certainly a lot more practical in terms of the dollars.

But also you can do a whole lot more with less human resources. I think when we compare the cost of having to move people from place to place versus moving information, which is needed from place to place, it is a very different price point. We are doing studies now in telemedicine that show that robotic docs in certain procedures are more precise in assisting in an operation than a human being. We are beginning to see that in laproscopic and noninvasive procedures.

Even today, what people go to the doctor for, at just about any age, is information. They need a certain kind of information about a certain kind of complaint or issue that they are dealing with. Quite frankly, a lot of those information requests can be done on the network environment. That comes with throughput-connecting people who have information, whether they are in New York or in your assisted care residence in Arizona. You can have a whole slew of doctors who have specialties who are spread out all over the world, but if they are connected to this intelligent new Internet that we are building, you would be able to access them on the bandwidth, and they don't necessarily have to be there. You could have a whole set of other caregivers who are physically available and can follow up.

Virtual personalities, telediagnostics, virtual cyberdocs-these kinds of advances are going to be clicking in over the next two to five years. Inevitably, we are building out this very smart infrastructure. What that
means is that people that are in the assisted living industry are going to access this tool to do more better for price points that will increasingly drop. Just look what has happened to computers. Every 12 months, computer power is doubling. Well, bandwidth is also doubling. So as we look forward, in about two or three years, we will start to see new technologies that you will be able to link together using assisted or assisted living environments that will provide a lot more service at a price point that will be attractive.

I am particularly interested in these virtual personalities, which I think

will have a big impact on the assisted living industry. One in particular is an agent [correct?] habitat that would be a personality that would run things in the home. The customers in assisted living don't want to be dependent, but they need certain coaching, information, and facilitation, right? With these online personalities, they would be able to configure, and pick and choose. They will be able to actually have choices about designing the agent habitat. Think of it a little like your TV. Your TV is not where all the shows are; it is not where all the production is done. It is just a place where it kind of brings it all together, and then you turn on your TV
and it brings it to you. That is what an agent habitat would do.

I think that having an agent that could help people, remind them about taking medicine, remind them about people who are trying to reach them, be able to be a virtual memory for them, be able to do things like turn on and off lights, make the heat or cool come on and off, simple things and also be able to have a conversation, would be valuable. This would actually migrate toward becoming a companion, a virtual companion for those folks who are alone or maybe need some kind of information. Virtual personalities will really be the guides to help us search and find things on the Internet. They could become very important agents or surrogate humans for services that you might not be able to afford to deploy in actual human beings.

AL Today: Are we talking about basically a talking box? Not a walking artificial person?

Canton: There are a couple of different versions of this. In terms of what the near term possibilities are, you could have a virtual personality now that could have programmed into it a variety of things such as what I have been talking about-schedule, reminders-and it would come on. It would be on any screen or it would be audible, or available in the house, on the speaker system. It could have a face and would appear wherever there is a screen. It would also have ability to move through the habitat, if you would, with
voice, and would be able to communicate. That is the first stage.

The second stage would be mobile autonomy entities. We call them

robots or androids. There are 20 or 30 million robots that are used in industry today. The price points of these robots are coming down more and more. I would say probably within five to six years, we will start to see robots, where we certainly now have robotics entities to clean up for us, right? Or cut the grass? Very shortly, as computer power doubles every 12 months, we will see new life-size mobile robots that would actually be able to perform some functions in the home. For instance, you schedule a rule that Mrs. McGillicuddy needs her medication three times a day. So your agent Clyde shows up and he reminds Mrs. McGillicuddy it's time to take her medicine. Then the medicine boxes or caps have a little sensor on them that basically lets him know whether she took medicine or not.

There are a variety of things that can be done above and beyond video monitoring and being able to help people deal with these things with a system. It's not necessarily to take away from the efforts of personnel but to be a supplement to and, I think more importantly, to be a virtual companion where the personality would live in the habitat and actually develop a rapport where they learn about your habits. They will learn about the subjects you are interested in the more you use them.

AL Today: From a marketing standpoint, a provider could say that these high-tech tools or using virtual intelligence for more mundane tasks would enable them to operate more efficiently, giving more time for real live caregivers to interact with residents and provide one-on-one care.

Canton: That is right. It's like I said earlier, 90 percent of all requests for the doctor or hospital is really for information. A lot of that can be handled with virtual intelligence.

AL Today: Many senior housing providers likely aren't even close to maximizing the technologies that are available to them now to better meet customers' needs and streamline operations. What are a few things providers need to be doing in terms of using technology to gain a competitive edge and better respond to customers?

Canton: I think the first thing is just build their awareness to get a sense of what is going on out there. Visit an Internet show; there are a couple of big shows going every year. Maybe go to a show in telemedicine. Or if they don't have time to do that, then maybe at the every least go online and do some researching and understand some of the developments that are going on in this industry that they might be able to work with. They could be able to connect with vendors that have different kinds of solutions.

Companies have entire divisions that are devoted to health care: HewlettPackard, Siemens, General Electric, a number of companies. And they have a variety of new information technology solutions that you might want to know about.

Also, really connect with some of these companies doing virtual intelligence and telemedicine. Say, "OK, what would you recommend we do as a intelligent home technology? There are a number of companies that have virtual monitoring technology that's tied to one laptop and costs $1,500.

So No. 1, build your awareness; No. 2, have conversations with vendors; and No. 3, take a look at what other folks are doing within these different areas. Fourth, maybe set up a test pod and see if it works.

AL Today: When you spoke at the ALFA CEO Forum, did you get a sense from participants that they realize that getting onboard with new technologies is really a business imperative?

Canton: I did, but a lot is still based on a population that is not asking for e-mail yet. I would agree, this is not as customer-sensitive or customer-driven yet as it will be. The folks that are in the assisted living
communities today are not the generation of baby boomers that are dealing with e-mail every day or used to fast mail, or used to other kinds of high-tech services. Granted, not everyone is interested in wellness, for

instance, and thinks about that as one of the criteria for the assisted living residence they choose. And wellness has been around for the better part of 15 years.

Not everybody is going to want these technologies. My sense is that the CEOs understand that. As a futurist, my job is to point toward how society is evolving and how these technologies will create more competitive opportunities and also more productivity and better quality of life.