

Fidelity Podcast Program  
Re-engineering the Family (Final)  
Episode Transcript

Ludwig: I will ask you some questions about the picture in front of you. What do you see in the picture?

Dorothy: People.

Ludwig: What are the people doing?

Dorothy: Riding a bike.

Ludwig: Is the man wearing a hat?

Dorothy: Yes. A cap.

Ludwig: What color is the hat?

Garvia (Host): That's 89 year-old Dorothy in a retirement home in the city of Toronto answering questions from an usual care worker. Ludwig is his name, and he's got spiky purple hair and green eyes, he's only two feet tall with boyish good looks. [00:00:30] Residents like Dorothy really like working with him. Oh, and one more thing. Ludwig is a robot. Welcome to The Future According to Now. A podcast from Fidelity Investments and Atlantic Re:think, the branded content studio at The Atlantic. Technology holds so much potential, some of it sounds really farfetched, but some of it matters right now.

In each episode of this six parts series we explore a groundbreaking innovation [00:01:00] that holds real potential to change our lives in the foreseeable future. In this episode we're re-engineering the family, and we're doing it because the needs of families are rapidly changing. Ever heard of the coming Silver Tsunami? Well, in about 10 years a quarter of Americans will be over the age of 65. As they age their declining health will put a huge strain on [00:01:30] our ability to care for them. Being a caregiver can be incredibly stressful, and that can end up hurting a patient in the long run. After all, humans aren't robots, but robots are.

Speaker 4: What's that doing here?

Speaker 5: Rosie is our new robot maid, George?

Rosie: Good evening, sir.

Garvia (Host): We're not quite at the point of The Jetsons Rosie the Robot, but we're getting there.

Ludwig: How [00:02:00] are you today?

Dorothy: I'm good. How are you?

Garvia (Host): We met Ludwig at the beginning of the episode, a humanoid boy robot that helps to track and monitor signs of Alzheimer's disease or dementia. He does this just by holding conversations with seniors.

Mobiserv: Careful, I am about to move.

Garvia (Host): European researchers have developed Mobiserv, a Rosie like robot that acts like a social companion.

Mobiserv: [inaudible 00:02:25].

Garvia (Host): Mobiserv's touchscreen commands help patients schedule health [00:02:30] reminders. In Sweden Draft Plus monitors vital signs and serves up virtual doctor appointments.

Speaker 8: [inaudible 00:02:37], it looks okay.

Speaker 9: Okay. I mean I've [crosstalk 00:02:41].

Garvia (Host): In Japan robots are lifting and moving mobility challenged patients.

Speaker 10: Please look at me.

Garvia (Host): Japanese researchers are also responsible for a popular robot named Paro, known for its ability to soothe even the most agitated patients. Patients are really drawn to [00:03:00] Paro, and it's no surprise, this robot is a baby seal.

Speaker 11: Hi, Paro. Oops.

Garvia (Host): That's right, a robot baby seal.

Takanori Shibata: In the case of elderly people with dementia, some people have aggressive behaviors, some people have like depression, anxiety, pain and so on. Interaction with Paro can improve such anxiety, pain, sleep, [00:03:30] loneliness.

Garvia (Host): That's Takanori Shibata, Paro's inventor. Inspired by real life baby harp seals from the North, Paro provides emotional therapy to patients in hospitals and nursing homes. It's the size and weight of a six month old baby, but it's a medical device in disguise. Paro's kind of like a pet used in animal assisted therapy, but unlike real animals it never needs to be fed or cleaned up after, and it doesn't die.

Takanori Shibata: [00:04:00] Paro has many kind of sensors, so interaction with the owner, the Paro get some stimulation and the-

Garvia (Host): Underneath Paro's stuffed animal exterior is a complex robotic system of dual 32-bit processors, three microphones, 12 tactile sensors, touch-sensitive whiskers, and a delicate system of motors that moves different parts of its body. [00:04:30] Several retirement and geriatric facilities around the world have worked with Paro and they found that social behaviors among isolated residents have increased by almost a 100%.

Almost 80% of residents with sleepy behavior stayed alert after playing with Paro, and two-thirds of residents taking psychotropic medication report much better behavior after interacting with Paro. [00:05:00] Mary Jean is a middle-aged working mother of two from Allentown, Pennsylvania. She was her mother's main caregiver until her death and now she's reliving the caregiver experience with her father. A heart condition led to the amputation of both of his legs, Mary Jean became responsible for all parts of her father's daily living, including cleaning him. It changed their father-daughter dynamic.

Mary Jean: [00:05:30] I think it added to the stress of the situation for sure, and I know he was embarrassed. He was unhappy is the best word I can say about it. I was definitely mentally, mentally just beat, just beat.

Garvia (Host): When she was finally able to get a full-time caregiver for her father, Mary Jean could breathe a sigh of relief.

Mary Jean: When we had more [00:06:00] professional people come into help us, it just changed our relationship for the better. I now come in, we make a cup of tea, we sit down, we talk sports, we talk politics. We both have a much better relationship.

Louise Aronson: One of the things that you hear a lot is really that people, what they resent most about having caregivers or being dependent, is that loss of [00:06:30] self or the loss of dignity and privacy, and that they mind the affliction or the disability far less than they mind being deprived of that sort of core sense of who they are in the world.

Garvia (Host): Dr. Louise Aronson is a geriatrician who makes house calls, she knows all about the types of challenges Mary Jean and her father are facing. She sees a ton of loneliness in her work and people struggling with the loss of privacy [00:07:00] and autonomy. Still she wasn't entirely sold on robots like Ludwig and Paro.

Louise Aronson: My first response to robot caregivers was sort of shocked horror. They say, if we're just going to replace what little human contact those people have with robots, shame on us as a society.

Garvia (Host): Slowly she started to see their potential to help overworked caregivers.

Louise Aronson: If we could find ways where people [00:07:30] could with some of the assistance of a machine do those things that cause them the most shame, thereby

retaining their pride and keeping their relationships with human others at a more sort of pleasant level or a less intrusive level, I think that would improve people's experience of old age. If robots can be used to make people more independent or happier, supplementing all the human ways in which [00:08:00] we can and should do those things, then I'm all for it.

Garvia (Host): Dr. Aronson doesn't think humans and robots are mutually exclusive.

Louise Aronson: Currently most people who are very old and or who have dementia, are not getting nearly as much contact of any kind that they would like, and rather than replacing, couldn't we supplement, and isn't what matters more their happiness and the meaning they get in their lives than [00:08:30] our most idealistic notions?

I mean, yes, in an ideal world everybody would have as much pleasant social interaction as they wanted. Looking back at human history there's little indication that that's going to happen.

Garvia (Host): These types of innovations, the ones that improve the quality of life for aging adults, as well as their caregivers and doctors, hold tremendous potential to disrupt the healthcare industry.

Chuck Culp: [00:09:00] I would say from a strategy perspective, I think robotics and kind of automation are critical points to think about. I think they fit within a typical healthcare investors framework.

Garvia (Host): Chuck Culp is a research analyst at Fidelity Investments covering the medical technology space. He's excited about the prospects of robotics and automation to improve the lives of patients and caregivers.

Chuck Culp: Surgical robotics are probably the area where investors have spent the most [00:09:30] time. These aren't true robots in the sense that they're autonomous or kind of humanoids, they're really just enhancements to the surgeon today. One of the obvious things that these tools do is that they can eliminate a surgeon's tremor, which is just the movement of the hand while operating, which in some case can help avoid bad complications.

Then you have other things that are, I think are pretty interesting as a result of robotics, including [00:10:00] the robot's capacity to extend a doctor's career, and that's actually very important to some hospitals because they have trouble recruiting experienced surgeons in certain areas. The reason that happens is just because instead of having a highly manual process where you're on your feet for hours working at difficult angles, you actually get to sit down at a robotic console and direct this system.

Garvia (Host): Chuck looks at the data and cost of a new technology to see if there are economic advantages that can be created for the innovator, [00:10:30] customer, and investor.

Chuck Culp: I think one of the issues that we as a kind of society and as a healthcare system will face will just be the burdens on labor and the need for kind of in-home care, and I think there are going to be a lot of interesting opportunities in terms of providing care remotely or allowing patients to kind of provide their own care. We're really only kind of scratching the surface if you will of the potential for robotics in healthcare today.

Garvia (Host): [00:11:00] When imagining old age we wish for comfortable, happy lives, relatively free of health complications. We hope to be surrounded by loving family and friends who will take care of us. As we collectively live longer lives not all of us will have access to the same level of compassionate human care one deserves. It's this reality that's triggering technological [00:11:30] innovation in the form of robots, for better health and living. The Future According to Now is a podcast from Fidelity Investments and Atlantic Re:think, the branded content studio at The Atlantic. To learn more or to get in touch, visit us at [rethink.theatlantic.com/podcast](http://rethink.theatlantic.com/podcast). Listen on Apple Podcast or Spotify. [00:12:00] Next time we'll explore the frontiers of 3D printing. Thank you for listening. Promotional content produced by Atlantic Re:think, the branded content studio at The Atlantic for Fidelity Investments.

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