AARP, startups partner to study digital healthcare technology

Clinicians and groups like AARP view in-home digital technology as the future of healthcare and are studying different technologies to assist patients in the home.

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Research from AARP has found 90% of adults aged 50 and older use technology to stay connected. Based on that research, AARP has partnered with two Boston-based digital health startups that have combined technology and healthcare with a friendly face to provide a health-focused robotic companion in the homes of individuals selected to participate in a pilot study of the product.

Pillo, a HIPAA-compliant digital healthcare companion robot, will be placed in the homes of six to 10 pilot study participants later this month for about four weeks to determine how the robot can improve disease management for individuals who have been newly diagnosed with diabetes.

Pillo, which was created by Pillo Health and given a voice through <u>Orbita's voice experience management platform</u>, is a voice- and video-enabled intelligent assistant that's able to dispense medication, connect to caregivers, issue voice reminders and perform daily tasks, like reporting the weather and playing radio stations. Emanuele Musini, CEO and co-owner of Pillo Health, said the robot features a 7-inch touchscreen and <u>facial recognition</u> technology.

Once Pillo recognizes the patient, it is able to dispense medication that has been preloaded into the robot.

Investing in digital health startups

AARP chose to partner with Orbita and Pillo Health in May as a result of the PULSE@MassChallenge event -- a digital health innovation hub established by the city of Boston, MassChallenge and other entities to support digital health startups. AARP launched its \$40 million Innovation Fund in 2015 that allows the organization to invest in companies working in three major health-related areas: aging at home, convenience and access to healthcare, and preventive health.

AARP's purpose is to "empower" people to choose <u>how they live as they age</u>, said Andy Miller, senior vice president of innovation and product development at AARP, based in Washington, D.C.

"Innovation is a major way to make this happen," Miller said. "We want to help bring solutions to market that make life better for people 50-plus and increase their health security, financial well-being and personal fulfillment."

Technology makes it easier for providers to monitor and diagnose patients at critical moments and to <u>provide ongoing care</u> without having the patient always in the room with them, Miller said.

Bringing robotics into the home

Orbita CEO Bill Rogers said Pillo will empower older adults by reminding them to take their medication on time and providing education about diabetes. Pillo can also communicate information to caregivers, alerting them if a person's medication has not been taken or if some other issue occurs.

Rogers said the challenge with mobile applications and web portals is the user needs to learn that experience to be able to collaborate with their doctors and physicians. Voice technology "changes the whole game of engagement," he explained.

"It allows people to be able to engage and interact with their voice, which is the natural way people engage," Rogers said.

Pillo's Musini said the idea to create Pillo stemmed from his own personal experience with his father, who had serious health issues and would forget to take his medication and follow the doctor's orders.

"We started it with a mission to empower older adults living at home with <u>chronic conditions</u>," Musini said. "The approach I had was, 'What if there was someone with my father at that time?' There was something that could be with him 24 hours a day, 7 days a week and was alert."

Providing aftercare in-home help

Jack, who leads <u>Project Re-Engineered Discharge (RED)</u>, a Boston University Medical Center research group responsible for developing and testing strategies to improve the hospital discharge process, helped design an animated health information technology system named Louise that provides aftercare information to people recently discharged from the hospital.

Project RED studied the system and found twice as many people who used Louise preferred to receive their discharge information from the system, rather than a doctor or nurse for several reasons, including Louise's availability and accessibility. After returning home, Jack said patients and their caregivers are able to sign onto the Louise technology and learn about medication, proper care and follow-up appointments, as well as easily connect with their clinicians.

"When patients leave the hospital, in our studies, when we ask them what they are most worried about, they say that, 'I'm all by myself,'" Jack said. "When there are at-home technologies, where the patient can access the technology, the technology can access the clinicians, and the patients are super happy. Plus, they can get their problem fixed in a timely way, rather than waiting for an appointment."

Identifying best practices for digital healthcare technology

Jack said thorough study of in-home digital healthcare technology is critical before sending it out into the public -- a sentiment echoed by <u>John Torous</u>, codirector of the digital psychiatry division at Beth Israel Deaconess Medical Center in Boston.

Torous said it's up to researchers and groups like AARP to find best practices for in-home digital healthcare technology to avoid potentially harmful consequences.

"I think together we can learn how to use this technology in a productive, ethical and meaningful way, and it will have a bigger role in healthcare," Torous said.

Miller said the goal of AARP's collaborations with companies like Pillo Health and Orbita is to "gain useful and impactful information that can be used to continue to <u>improve the customer experience</u> and help make these products as beneficial as possible."

Along with Orbita and Pillo, AARP has partnered with digital health startups like Folia Health and One Medical Group.

"When considering which startups to work with, we are looking for missionaligned companies who have transformational solutions and those we can work with to co-create ageless design solutions that could have meaningful impact in the lives of the 50-plus consumer," Miller said.