

Virtual Doctor Explains All

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Anyone who has ever tried to sort through the tables and charts that accompany laboratory results in their patient portal has wished they had a doctor standing over their shoulder.

This type of help would be especially beneficial to senior citizens who arguably have more blood draws and diagnostic tests than their younger counterparts. Providers have long been working on ways to encourage seniors to engage with their patient portals, and now researchers at the University of Illinois (U of I) are hoping they've found a new method using computer-generated physicians.

This technique is less sci-fi than it sounds. The model under development at U of I pairs a prerecorded video with certain lab result data. In the video, a physician explains test results in layman's terms, using graphics to compare test scores with ideal scores and convey the risks of, for example, having a heart attack, stroke, or other serious health condition.

A computer-generated physician—called a “computer agent” by developers—is presented in the cartoon-like video, explaining things like diabetes and cholesterol test results to patients. One reason this option is being explored, according to researchers, is because numeric literacy tends to decline with age, making interpreting tables of numeric data more challenging for older adults.

“The dialogue delivered by the computer agent is similar to that which would occur during a routine office visit with a physician,” says Dr. William Schuh, chief medical information officer at the University of Illinois' Beckman Institute for Advanced Science and Technology and Carle Foundation Hospital's Research Institute, in a University of Illinois [press release](#). “The videos are intended to supplement, not replace, physician-patient interaction, promoting patients' understanding of their health conditions and their performance of self-care behaviors.”

Researchers tested the computer-generated doctors on groups of seniors between the ages of 65 and 89 in pilot studies. One of the features they tested was whether participants' comprehension of the information was better when the computer agent used a natural voice or a computer-generated voice. According to pilot results, recall of the information regardless of delivery remained the same.

The study was published in the *Journal of Biomedical Informatics*, available at www.sciencedirect.com/science/article/pii/S1532046417300643.

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