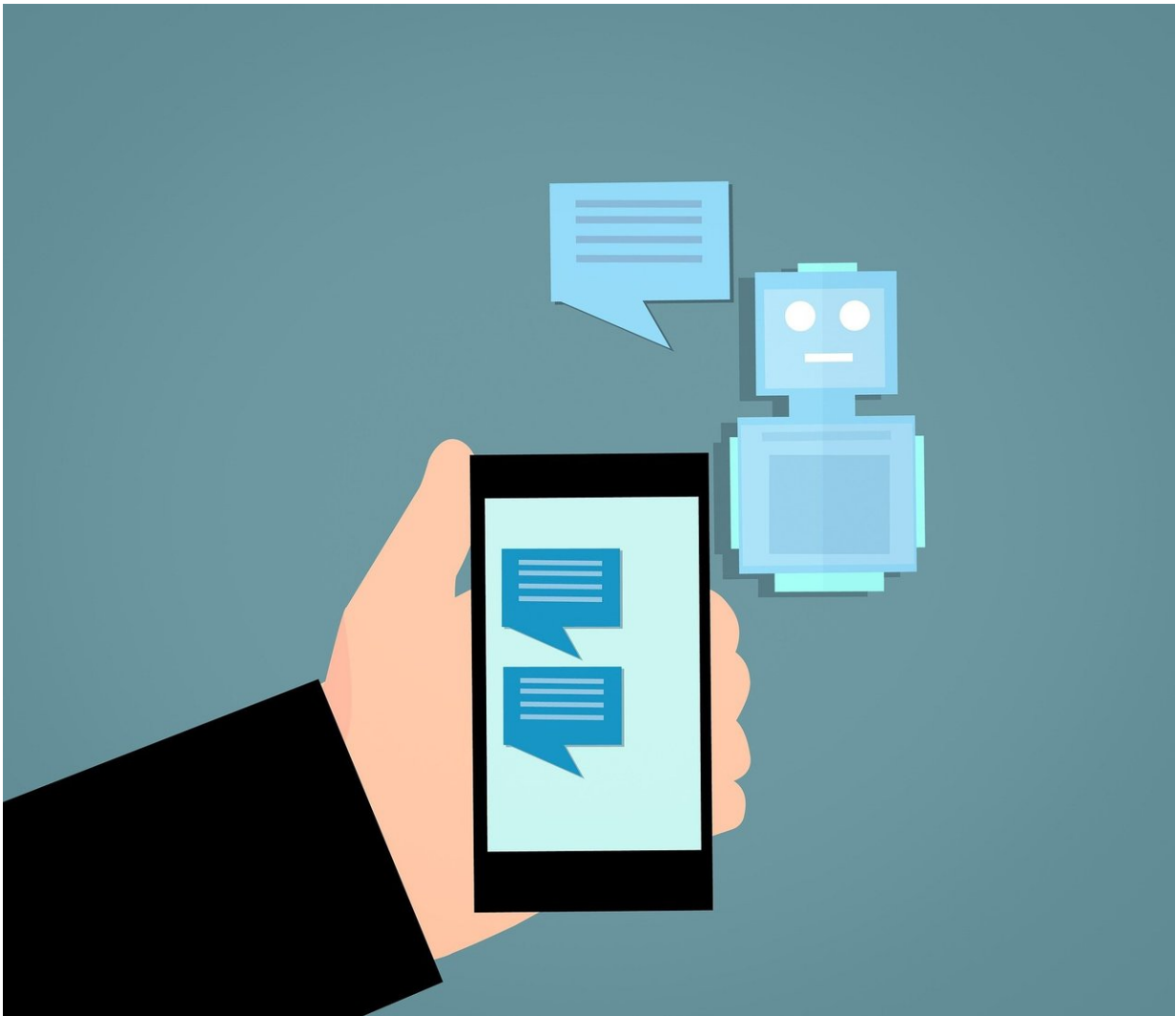


# Can chatbots help with genetic testing for cancer risk?

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In a study from Huntsman Cancer Institute at the University of Utah (the U) and NYU Langone Perlmutter Cancer Center, researchers found that a specialized chatbot can effectively assist patients in deciding whether to pursue genetic testing, offering an alternative to traditional genetic counseling.

Kimberly Kaphingst, ScD, research director of the Genetic Counseling Shared Resource and co-leader of the Cancer Control and Population Sciences Program at Huntsman Cancer Institute, and professor of communication at the U, says the results of the BRIDGE (Broadening the Reach, Impact, and Delivery of Genetic Services) trial could help expand [patient access](#) to genetic care.

The findings are [published](#) in the journal *JAMA Network Open*.

According to the American Cancer Society, up to 10% of all cancers may be caused by inherited genetic changes.

"There's a substantial number of people who have an inherited cancer syndrome. The vast majority don't know it," says Kaphingst. "As we are getting better at recognizing people who are in need of genetic testing, we were very interested as a team in coming up with sustainable and scalable ways to actually provide those types of genetic services."

The current standard of care model for genetic testing involves a two-appointment process. Patients first meet with a genetic counselor for a pre-test appointment, during which they discuss their family history, as well as the risks, benefits, and limitations of testing. If patients choose to proceed with testing, they schedule a second appointment to analyze the results with the counselor.

The BRIDGE trial used an algorithm to find patients at higher risk for inherited cancer syndromes based on their self-reported family health

histories.

Researchers then divided more than 3,000 Utah and New York participants into two groups—one pursuing the standard two-appointment model, and the other engaging with a chatbot designed and scripted to provide genetics education instead of having a pre-test appointment with a genetic counselor.

Participants in the chatbot group were sent a message through MyChart, an online patient health portal, recommending genetic services and providing a link to launch a chatbot. They then received information about genetic testing and were able to ask questions to help them decide if they should proceed with testing.

Researchers found outcomes between the two groups were equally likely to complete genetic testing, demonstrating that a chatbot is a viable alternative to the traditional model.

"Our goal wasn't to see if the chatbot was better or for worse. The question was, is this another model that we can use to offer genetic services to patients and have similar outcomes? For a lot of people, the chatbot model provided enough information," says Kaphingst. "[The chatbot](#) can take some of the burden off genetic counselors and help provide genetic testing to more patients who are eligible."

Researcher and genetic counselor Rachelle Chambers, MS, CGC, manager of the High-Risk Cancer Genetics Program at NYU Langone Perlmutter Cancer Center, says the promising results of this equivalency trial are crucial as knowledge of and demand for [genetic testing](#) is on the rise.

"Twenty years ago, we were testing for a handful of cancer-related genes, like BRCA1 and BRCA2, which can lead to an increased risk for

breast and ovarian cancer. Now, we might analyze 100 different genes linked to cancers," says Chambers. "From my perspective as a genetic counselor, there are not enough genetic specialists to meet the increased demand of patients that could benefit from this type of testing."

Patients who know they are genetically more likely to develop [cancer](#) can be proactive in prevention, through increased screenings, taking medications, pursuing surgery to reduce risk, and changing personal behaviors.

**More information:** Kimberly A. Kaphingst et al, Uptake of Cancer Genetic Services for Chatbot vs Standard-of-Care Delivery Models, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.32143](#)

Provided by Huntsman Cancer Institute

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