

Home DNA test results can be challenging for consumers and physicians

June 3 2022, by Ileana Varela



Credit: CC0 Public Domain

It's amazing what a little bit of spit can tell you about a person. With roughly 2 ml of saliva, personal genetic testing, also known as Direct-to-Consumer Genetic Testing (DTC-GT), can provide insight into your past and future.

These tests can offer clues about your ancestors. And throw in some cool tidbits about trivial things like your likelihood of having dandruff or being able to smell asparagus in your urine or sneezing at sunlight.

"These types of tests are everywhere. I did 23andMe. There's also Ancestry and others," says Tracey Weiler, associate professor of human and [molecular genetics](#) at the FIU Herbert Wertheim College of Medicine.

Direct-to-Consumer Genetic Testing is a growing business. The global DTC-GT market is expected to surpass \$10 billion by 2028. In addition to ancestry information, some companies are also offering health packages. These can include testing for [genetic predisposition](#) to certain diseases or genetic response to certain drugs. That's the part that concerns Weiler, who says, "You cannot take such test results at face value."

It is important that consumers realize not all DTC genetic tests are the same. The technology they use and the genes and variants they cover may vary. It is paramount to make sure the testing is done in a CLIA-certified lab, which means the lab meets federal regulations for quality and safety. Then there is the question of coverage.

"The coverage is often poor, and that's a big issue," says Weiler.

DTC-GT companies choose to test only a few major genetic variants (changes or alterations) associated with a genetic condition, but these diseases can be caused by many different variants.

For example, 23andMe has been approved by the Food and Drug Administration to test three mutations in two genes, BRCA1 and BRCA2. Most common in people of Ashkenazi Jewish descent, these mutations significantly increase the risk for certain cancers, including hereditary breast and ovarian cancer. However, thousands of variants in these genes can cause cancer, so reporting on only three is just scratching the surface. In addition, other factors can contribute to cancer risk, including family history, age, race, diet, exercise and environmental factors.

Weiler's advice: "Don't assume that you are not at risk because the test came back negative. And just because you're positive, don't freak out. But you should be concerned and follow up with your physician."

Most people who receive troubling test results tend to follow up with their primary care provider (PCP). However, Weiler says many [health care providers](#) not specialized in genetics may be unprepared to handle these situations.

Weiler co-chairs (with Dr. Houriya Ayoubieh of Texas Tech University) the DTC-GT project group addressing this matter as part of the National Institutes of Health's Inter-Society Coordinating Committee for Practitioner Education in Genomics. The group's goal is to provide resources to PCPs to improve their comfort with DTC-GT in their clinical practice. They have produced a FAQ for [health care professionals](#) focused on DTC-GT in primary care.

At a recent meeting of the American College of Medical Genetics and Genomics, they presented a series of recommendations for PCPs and

asked geneticists for their input. "We hope to eventually publish recommendations and put them into a mobile phone app. So, when you take your DTC genetic test results to your doctor, they can consult the app," says Weiler.

Recommendations will touch on subjects from ordering confirmatory testing and referring patients for genetic counseling to ensuring patient privacy. Federal law bans discrimination in [health insurance](#) and employment based on genetic testing. But suppose a doctor scans a home kit test result, which may be inaccurate, into a patient's electronic medical record. This could compromise their ability to get life insurance or disability and long-term care insurance.

Weiler's concerns about home DNA testing are shared by public health authorities who suggest you think before you spit. She also recommends people take a closer look at their [family history](#). "What's in your family is in you," she affirms. If your family has a medical history of conditions like heart disease, diabetes, cancer or Alzheimer's, get checked out.

Provided by Florida International University

Citation: Home DNA test results can be challenging for consumers and physicians (2022, June 3) retrieved 12 May 2024 from <https://medicalxpress.com/news/2022-06-home-dna-results-consumers-physicians.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--