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Written by <u>Heather Grey</u> on February 5, 2021 — <u>Fact checked</u> by Dana K. Cassell

What Experts Think of 23andMe's COVID-19 Risk Calculator

Experts are learning who is most at risk for a severe COVID-19 case. Stephen Zenner/SOPA Images/LightRocket via Getty Images

- **The consumer genomics company 23andMe has launched a new interactive tool called the COVID-19 Severity Calculator.**
- **The tool offers insights into some risk factors for hospitalization from COVID-19, but the company notes that it's not intended to predict an individual user's risk and doesn't take into account genetic risk factors.**
- **The tool doesn't take into account all the possible risk factors that can affect how the disease develops.**

The COVID-19 pandemic has hit some Americans particularly hard.

Older adults, people with certain preexisting health conditions, and members of ethnic and racial minorities are more likely than others to develop serious symptoms of the disease. They've faced higher rates of hospitalization and higher rates of death from COVID-19.

To help community members learn how certain risk factors affect the chances of hospitalization in people who've developed COVID-19, the consumer genomics company 23andMe has launched a new interactive tool called the COVID-19 Severity Calculator.

"It's interesting because it turns every citizen who looks at it into a bit of an investigator," said Dr. Robert C. Green, MPH, a medical geneticist and physician-scientist at Brigham and Women's Hospital in Boston, Massachusetts.

"You can change the age, you can change the body mass index, you can change the ethnicity and see how it influences the risk of hospitalization," he continued.

The tool offers insights into some of the risk factors for hospitalization from COVID-19, but the company notes that it's not intended to predict an individual user's risk and doesn't take into account genetic risk factors. The tool does not take into account all of the possible risk factors that can affect how the disease develops.

"We created the Severity Calculator because people who have visited 23andMe's COVID-19 Information Center have consistently been asking for more information about the severity of the virus infection and what factors into why it impacts some people harder than others," Janie F. Shelton, PhD, MPH, a senior scientist at 23andMe, said in a company press release

Does not include genetic data

The COVID-19 Severity Calculator only incorporates nongenetic risk factors for hospitalization from COVID-19.

"They make it clear that this is not based on your genetics. But you have to read that. It's not like it's in huge bold letters," Green told Healthline.

The tool's algorithm is based on data related to age, sex, ancestry, weight, height, exercise frequency, and certain health conditions. Those conditions include fatty liver disease, high blood pressure, and type 2 diabetes.

Green speculates that the company might eventually incorporate genetic data into the tool as more insights on genetic risk factors become available.

"I don't know, but I suspect they will be trying to integrate genetic data into it as the weeks go by and they get more [data]," he said.

Based on 23andMe study findings

To develop the COVID-19 Severity Calculator, 23andMe drew on findings from its own COVID-19 Research Study.

The company launched this project in April 2020 to identify and study genetic and non-genetic factors that may affect how COVID-19 develops among members of its customer base.

Study participants share saliva samples and complete online questionnaires about their health, including their experiences with COVID-19.

Nearly 10,000 participants report they have tested positive for the virus. Roughly 750 report being hospitalized with severe symptoms of the disease.

The participants in this study do not represent the general population of the United States, reports 23andMe.

The company also notes that neither the study nor the risk calculator incorporate findings from people who have died from COVID-19.

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Following genetic clues

COVID-19 can cause a wide range of symptoms, ranging from mild to life threatening. Multiple research groups around the world are studying how genetic factors may affect those symptoms and how COVID-19 develops.

"I am confident that genetics has a role in disease onset and severity," Michael P. Snyder, PhD,

chair of the department of genetics and director of the Center for Genomics and Personalized Medicine at Stanford University in California, told Healthline.

"Right now, blood type, which is controlled by genetics, has been associated with COVID-19 in several studies. Other genetic loci are [also beginning to be discovered," he said.

Many scientists who are studying these topics have come together to participate in The COVID-19 Host Genetics Initiative. This international research consortium includes Green's research team, as well as 23andMe.

Honing treatment approaches

As researchers learn more about the role of genetics in COVID-19, their findings may help them predict who is at greatest risk of developing severe symptoms. This may help experts learn which groups of people are most likely to benefit from certain treatments, said Snyder.

Genetic insights may also help scientists identify new treatment targets and treatment approaches for COVID-19.

"Certain markers may offer clues to specific biological vulnerabilities and specific systems in the body that put you at risk," Green said.
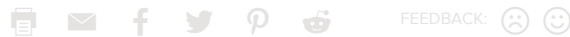
"If you can pin down more precisely exactly which genes and variants are more responsible, which proteins those genes produce, you've got a head start on thinking about treatments that can moderate those responses," he added.

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