

MassMutual members can get gene tests



Insurer MassMutual (its Seaport office above) hopes that when their policyholders learn they carry a genetic predisposition for a common disease, they'll take action to lower their risk.

By **Tara Bannow** | STAT NEWS

One of the country's biggest life insurers is venturing into genetic testing, an area that's historically been a minefield for that industry, in a purported effort to keep its members alive longer.

MassMutual announced Tuesday that it's offering many of its 4.2 million policyholders free genetic risk assessments for eight common diseases, like heart disease, type 2 diabetes, and breast cancer. The Springfield-based insurer hopes that when people learn they carry a genetic predisposition, they'll take action to lower their risk through diet, exercise, and getting regular screenings.

Viewed one way, it's a win-win: The longer its members live, the longer MassMutual can collect and invest their premiums without paying out.

"I think what's remarkable about this story is that in some ways it's taken so long," said Robert Green, a medical geneticist and professor at Harvard Medical School. "If you're a life insurance company, anything you can do that helps people live longer is an advantage."

But genetic testing and life insurance have a fraught relationship. Unlike health insurers, life insurers have free rein to scour applicants' medical records, including any genetic test results therein, and can use them to write their policies. Companies have resisted calls to ban the use of genetic test results in underwriting, arguing that doing so would allow people fated to have deadly ailments buy multimillion-dollar policies. Life insurance is regulated by states and only one, Florida, prohibits life insurers from using genetic testing data in crafting policies.

Given that history, life insurers are generally nervous about dipping their toes into genetic testing out of fear of spooking their members, Green said. Even so, his research has found that people who do learn their scores tend to improve their diet and exercise. It wasn't possible to prove whether the tests induced the behavior changes, however.

MassMutual already has evidence its members will respond. In a trial run, 71 percent of the 1,400 policyholders who took the genetic tests said they changed their behaviors as a result.

The company is clearly anticipating privacy concerns, though. MassMutual declined to provide an executive for an interview with STAT, but in a news release, it said data privacy is a "critical component" of the effort.

MassMutual says it will see aggregate test results that include demographic data on the people who took the tests, such as their age, race, and gender. The company will neither see individual risk scores nor will it know who took the tests. The news release said that the scores won't affect "current premiums or policies." Instead, the data is meant to give an overview of members' health and behaviors.

That's where some get skeptical. Glenn Cohen, a health law and bioethics professor at Harvard Law School who has studied genetic testing and life insurance, wanted more information than MassMutual was sharing on how the company plans to use the data. He wondered whether it could affect future rate setting.

"Truthfully, if their goal was to inform decisions and keep people healthier, they would offer the tests in a way that is totally firewalled from the company," Cohen said.

Asked whether the data could be used to raise life insurance rates in the future, Adam Fox, MassMutual's head of distribution technology and data science, responded via email that the pilot is for current policyholders.

The tests, performed through mailed saliva samples, will yield polygenic risk scores, which tell people their likelihood of developing certain conditions. Eligible policyholders are between the ages of 35 and 70. Fox declined to say how many people are eligible or how many people the company expects will take the tests.

The conditions covered under the initiative are atrial fibrillation, breast or prostate cancer, cardiovascular disease, high blood pressure, high low-density lipoprotein cholesterol, low bone density, and type 2 diabetes. Members who take the tests will also get actionable health advice and a report to review with their doctor.

Peter Donnelly, CEO and co-founder of Genomics plc, the UK-based company providing the testing for MassMutual, said while genetics is an important risk factor, there are many things people can do to reduce their risk of developing the conditions covered. Across the seven diseases each individual will be tested for, most people will be at elevated risk for at least one.

For some, like breast cancer, the action plan will be to take advantage of screenings, Donnelly said. For others, like high blood pressure, the options are changes in diet, exercise, and taking statins.

"For people who happen to be at high risk because of their genetics, for them it's particularly important that they do things to reduce their risk,"

Donnelly said.

Harvard's Green said he thinks more lives would be saved through genetic sequencing for single gene mutations compared with the type of polygenic screening that MassMutual is undertaking. Polygenic screening generally does not look for mutations in the BRCA1 and BRCA2 genes, for example, which increase the likelihood of developing breast cancer.

“Direct-to-consumer testing has been great for genetics in that it has democratized and demystified genetics,” Green said, “but in general, they do not look for the thousands of other gene mutations you could find if you sequenced.”

Mark Rothstein, director of translational bioethics at the University of California, Irvine's Institute for Clinical and Translational Science, said he would not have chosen the conditions that MassMutual did because they're common and treatable.

Instead, he encourages life insurers to focus on conditions that are more lethal and that people are more likely to get if they harbor genetic risk, such as early-onset Alzheimer's disease, amyotrophic lateral sclerosis, and some breast and colon cancers.

“It's a head-scratcher why they want to test for these common disorders,” Rothstein said. “I'm stunned.”

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