

Study gauges emotional toll of direct-to-consumer genetic testing

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Among the latest health care trends seeking to advance "individualized medicine" are private companies marketing genetic testing directly to patients. The mail-in kits, with price tags as high as \$2,500, use a saliva specimen to identify small variations in the human genome (called "single nucleotide polymorphisms" or "SNPs") associated with heightened risk for diseases such as diabetes and prostate cancer. The U.S. Food and Drug Administration has raised concerns about whether the tests are clinically beneficial and has advocated they be conducted under medical supervision, but few studies to date have investigated the emotional effects that direct-to-consumer genetic screens have on patients.

In the October issue of [Mayo Clinic Proceedings](#), a group of Mayo Clinic physicians and bioethicists analyzed whether these genetic tests cause patients to experience excessive worry about developing diseases.

"We looked for evidence of increased concern about disease based solely on [genetic risk](#), and then whether the concern resulted in changes in health habits," says co-author Clayton Cowl, M.D., a specialist in preventive, occupational, and aerospace medicine, and a physician in the Mayo Clinic Executive Health Program.

The randomized study found patients' worry tended to be modestly elevated one week after the genetic testing, and that people worried more about unfamiliar diseases, for instance the thyroid condition Graves' disease, than those commonly known, such as diabetes. One year

later, however, patients who had undergone testing were no more stressed than those who hadn't. One surprising result was that men whose genetic risk for prostate cancer was found to be lower than that of the general population, and who also had normal laboratory and physical screening results for the disease, were significantly less stressed about the disease than the control group.

The tests may be useful if they prompt patients to make health-conscious changes, such as losing weight or being vigilant about cancer screening. Some doctors are concerned, however, that patients who learn they have less-than-average genetic risk for a disease might skip steps to promote good health, notes Dr. Cowl. The current study assessed only the emotional effects of the tests. "The ability to determine the actual utility of these tests, that is, whether a calculation of genetic risk accurately predicts disease, is still several years away," he says.

More information: <http://www.mayoclinicproceedings.com>

Provided by Mayo Clinic

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