

Disclosure of incidental genetic findings can have positive impact for patients

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A new study led by researchers at Brigham and Women's Hospital (BWH) has found that providing unanticipated information about risk of coronary artery disease during a genetic risk assessment for Alzheimer's disease helped some participants cope with their results, and also motivated participants to make changes to their health behaviors. The results of the randomized controlled study are published online in the journal *Annals of Internal Medicine* on Jan. 26.

"The increasing use of genomics in medicine raises important questions about what to do with the additional information that genomic tests can provide, yet is unrelated to the reasons testing was ordered," said Kurt Christensen, PhD, a researcher at BWH and Harvard Medical School and lead author of the article. "We found that telling individuals who wanted to learn about their risk for Alzheimer's disease about their risk for both Alzheimer's disease and coronary artery disease actually reduced distress among some people, and motivated many to make improvements to their lifestyles."

In this study, 257 [participants](#) between the ages of 21 and 83 who had no symptoms of Alzheimer's disease were randomized to one of two groups. For the [control group](#), genetic counselors provided personalized information to participants about their risk for Alzheimer's disease based on analyzing the gene APOE. For the experimental group, participants were provided the same information as well as told that the higher risk variant of the Alzheimer risk gene was also associated with an increased risk for coronary artery disease. Participants were carefully evaluated for

lifestyle habits and psychological distress before having genetic testing done and then again at six weeks, six months and a year after learning their genetic results. The researchers found that the participants who were at higher risk for Alzheimer's disease and were also told that they were at risk for [coronary artery](#) disease had lower distress scores than those in the control group. Additionally, participants who received the [coronary artery disease](#) information were more likely to report making improvements to a variety of [health behaviors](#), such as diet and exercise.

"These findings have important implications for the future of genomic medicine," said Robert C. Green, MD, MPH, a medical geneticist at BWH, director of the Genomes2People Research Program and principal investigator of the study. "The disclosure of secondary findings from genomic testing has great potential to improve the way physicians identify and prevent disease, but there are concerns that such information will harm patients more than it helps. This research is reassuring, and provides evidence that secondary genomic findings disclosure can have a substantial positive psychological and behavioral impact on patients."

More information: Kurt D. Christensen et al. Disclosing Pleiotropic Effects During Genetic Risk Assessment for Alzheimer Disease, *Annals of Internal Medicine* (2016). [DOI: 10.7326/M15-0187](https://doi.org/10.7326/M15-0187)

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