CLAY COWL: Hi. I'm Clay Cowl, and I'm in the division of Preventive, Occupational, and Aerospace Medicine here at Mayo Clinic in Rochester, Minnesota.

Recently I was able to combine with a group of bioethicists here at Mayo Clinic to produce a manuscript that is scheduled to be published in the October 2011 edition of the *Mayo Clinic Proceedings.* The title of the article, which is "Impact of Direct-to-Consumer Predictive Genomic Testing on Risk Perception and Worry in a Preventive Health Clinic," really focuses on the whole concept of individualized medicine in its very early stages.

A variety of direct-to-consumer firms have sought to capitalize on the whole concept of individualized medicine. What I mean by this is that since the whole human genome has been identified, within that genome there have been small variations in it described as single nucleotide polymorphisms, or snips. And from these abnormalities have been developed genome-wide association studies which attempt to determine whether an individual has certain abnormalities associated with certain diseases or illnesses.

In this particular study, what we attempted to do is not necessarily study the utility of predictive genomics, because we felt that that will not likely be available until other longitudinal studies are produced over years to come, but what we did try to study was the individual person's perceptions of risk and worry. We tried to identify a cohort of patients in which was highly motivated and would be most likely to participate in a direct-to-consumer type environment.

Within our practice here at Mayo Clinic, we thought that would be the Executive Health Program, which involves 7,000 or so executives and their spouses from across the country and the world and ultimately proved to be a cohort that was highly interested, motivated, and had the wherewithal and means to participate in such an activity such as predictive genomic testing. This being the case, we took a cohort of 150 patients and provided them the predictive genomic testing through one of the firms that offered this type of service. We compared them to 150 individuals that received the standard care within the executive health Practice.

What we found is that perceptions of risk and worry actually increased slightly, we would say modestly, within the first week after receiving the genetic information. But over a period of 12 months, these differences gradually melded together and disappeared, so we really did not see any significant difference after a 12-month period of of time between the control and the study group.

Now, again, I want to emphasize that this was not a study looking at the utility of predictive genomic testing. It's much too early to be able to make any comments in regards to this. However, it was interesting to note that some of the patients had more worry and, I guess, general perception of risk for unknown diseases than in some of the more common diseases.

And what we tried to do in the investigation is identify 15 different conditions that we deem to be actionable, meaning things that you could actually do something about. For instance, colon cancer. You can screen with a colonoscopy, for instance. Or diabetes. You can interject appropriate dietary modification and increased exercise.

But, in summary, what we found was that the risk perception and worry initially increased and then leveled off. And then, finally, that for certain disease entities that were not as commonly known, such as Graves' disease, which is one of the thyroid disease, the perception of risk and worry was actually slightly higher than for other disease categories. I hope you enjoyed the article.

SPEAKER 2: We hope you benefited from this presentation based on the content of *Mayo Clinic Proceedings.* Our journal's mission is to promote the best interests of patients by advancing the knowledge and professionalism of the physician community.

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