

Tufts University calls for moderate approach to teaching personalized genomic testing

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Genetics in Medicine, the official journal of the American College of Medical Genetics, published this month a paper by Tufts University faculty calling for a moderate, strategic approach to teaching personalized genomic testing in medical school curricula.

For 16 months, a multi-disciplinary group of Tufts University faculty examined ways to improve education regarding personalized genomic testing at Tufts University School of Medicine (TUSM). The genesis of the debate centered on whether medical students should use their own genome for educational purposes.

"We started with the basic agreement that doctors of today and tomorrow need to learn how to use genomic information responsibly and safely, and that this material was lacking in the curriculum," said Diana W. Bianchi, MD, Professor of Pediatrics, [Obstetrics](#) and [Gynecology](#) at TUSM.

"We thought that introducing a personal genetics component into the medical school curriculum would offer an exceptional opportunity for students to learn first-hand about the process, and would enable them to be trained to evaluate the analytic and clinical validity, as well as the clinical utility, of the data," says David Walt, Robinson Professor of Chemistry at Tufts University School of Arts and Sciences. Walt, a co-founder of Illumina, suggested that the Tufts medical students' own personal genotypes could serve as a backdrop for teaching issues related to clinical implementation, including the potential benefits and harms of

these tests.

The faculty group conducted extensive meetings with the school's deans of education and student services to determine how the information might adversely affect students. In particular, they were concerned about the impact on student mental health if an abnormality were discovered.

"We concluded that if an institution is going to offer personalized [genetic testing](#) to its trainees, a plan should be made regarding both protection of privacy and follow-up of abnormal tests. Students should be told in advance of testing where to go for counseling regarding abnormal results, and who will pay for such counseling," explained Bianchi.

The TUSM faculty group recommended that curriculum committees explore ways of enriching educational content in the curriculum with genetics, genomics, genome-wide association studies (GWAS) and sequencing using anonymous or publicly accessible genomes. Discussion of the benefits, limitations, and potential harms of such testing should be an integral part of the educational process.

"We strongly advocate that genomic analysis and personalized medicine is a necessity for modern medical school education, both to be able to translate the advances made in genetic analysis and knowledge into improvements in human health and to begin to think of diseases as disruptions in specific pathways. Our experiences illustrate that adding this material to a medical school curriculum is a complex process that deserves careful thought and broad discussion within the academic community," added Walt.

Provided by Tufts University

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