

Study finds positive trends in medical genetics education

February 12 2015

Today's physicians require an increasingly comprehensive understanding of the principles of genetics and genomics in order to make informed clinical decisions. Scientific discoveries are bringing genomic technology directly to consumers at an increasingly rapid pace. The availability of genomic information necessitates that educators provide adequate training in genetics and genomics for future health-care providers.

In a new study in the journal *Genetics in Medicine*, researchers have shown that genetics curricula are evolving to include current topics in genomics however the majority of the content is taught in the first two years of medical school, with minimal and declining formal instruction in genetics during years three and four.

This study was the result of a survey of course directors in the U.S. and Canada who teach genetics to medical students. The survey collected information on what topics are currently being taught, how they are taught, who the instructors are, how student learning is evaluated, what strategies are used when students do not pass the subject at their schools.

Medical schools that participated in the survey used a variety of innovative teaching strategies to bring genetics into medical training including using integrated curricular models, as well as diverse and innovative teaching and assessment strategies. "We found the curriculum has evolved to include topics of particular relevance to the practice of genomic medicine, including personalized medicine, direct-to-consumer

genetic testing, genome wide association studies, pharmacogenetics and bioinformatics," explained corresponding author Shoumita Dasgupta, PhD, associate professor of medicine at Boston University School of Medicine (BUSM). "However, while important topics emerging in genomic medicine are frequently being added to the curricula, more than 40 percent of the responding medical schools in the U.S. and Canada still don't teach them," said Dasgupta.

According to Dasgupta and her colleagues, in order to produce genomically literate physicians, it is critical to improve the coverage of topics relating to genomic medicine. One way they recommend is to increase exposure to these topics by promoting more integration of genetics across the four-year curriculum and highlight existing genetics topics in core clerkships. "These results point to an opportunity to extend formal training in genetics across the entire [medical school](#) continuum," she added.

The researchers suggest concrete steps are needed to ensure the readiness of future physicians to practice genomic medicine, including increasing clinical exposure to [genetic](#) topics both locally and through curricula developed by national organizations such as the Association of Professors of Human and Medical Genetics, tracking student performance in the subject even when taught alongside other topics, and involving genetics experts in curriculum development and student mentoring.

"This is a pivotal moment in [clinical genetics](#), and as educators, it is our responsibility to ensure our graduates are prepared to practice in the era of [genomic medicine](#). While powerful technologies that allow whole genome analysis gain traction, it becomes increasingly critical to train the next generation of future physicians to translate genomic technologies and discoveries into their clinical practice across a range of specialties and practices," said Dasgupta.

Provided by Boston University Medical Center

Citation: Study finds positive trends in medical genetics education (2015, February 12) retrieved 24 April 2024 from

<https://medicalxpress.com/news/2015-02-positive-trends-medical-genetics.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.