'Attributes,' Not Race, Explain Medication Response

BY JOYCE FRIEDEN
Senior Editor

BALTIMORE — Targeting medicines at particular racial categories "is a misguided approach, and what we should be pursuing is attribute-based medicine," Sharona Hoffman said at the annual meeting of the American Society of Law, Medicine, and Ethics.

One example of a medicine targeted at racial categories is BiDil (fixed-dose isosorbide dinitrate and hydralazine), an antihypertensive drug that was approved specifically for use in blacks. Some experts have concluded that a good response to BiDil has more to do with attributes and genes than it does with racial identity.

Patient attributes that might be considered relevant for assessing disease vulnerability or treatment responses include genetic variations or alleles that might be more common for people who are of one ancestral origin rather than others but could still cross population lines. "Then there are other factors such as diet, exercise, stress level, and exposure to toxins" that play into treatment response, said Ms. Hoffman, a professor of law at Case Western Reserve University in Cleveland.

"The Human Genome Project showed us that race is not a biologically valid or genetically valid concept, and therefore the emergence of 'race-based' medicine is both perplexing and troubling," she said at the meeting, which was cosponsored by the University of Maryland. "Race does not mean much of anything" from a genetic perspective because "99.9% of genes are identical for all humans," and in the remaining 0.1%, 90%-95% of genetic variations are found at equal rates in every population.

Society also has difficulty defining race, with legal definitions of race varying from one state to another, Ms. Hoffman said. The race categories listed in the U.S. Census also change every decade.

"It's very hard to tell what ancestry people have if you don't ask specific questions," Ms. Hoffman said.

In addition to these problems, using "race-based" medicine may exacerbate health disparities, because "it's possible doctors may try to specialize in treating blacks or whites," said Ms. Hoffman. That may violate federal or state antidiscrimination laws. Instead of pursuing race-based protocols, she recommended designing attribute-based trial protocols, and having institutional review boards and scientific review boards subject them to special scrutiny.

"Consider the genetic variations and the psychosocial, economic, cultural, environmental, and other factors, which you can measure or ask about—stress, diet, exercise, exposure to toxins, and cultural and religious barriers to treatment compliance," she said.

"Maybe people aren't doing well because they are not following the protocol—because they either don't understand it [due to] a language barrier, or they have religious beliefs that prevent them from doing some of the things you need them to do," she added. ■

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