Targeted Drug Therapy for Racial Groups Questioned

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WASHINGTON — Drugs like BiDil that target a particular racial or ethnic group do not represent the best approach for looking at health disparities, Dr. Francis S. Collins said at a meeting sponsored by the Department of Health and Human Services and the Office of Minority Health.

"It is a good thing that we have a drug that treats individuals with congestive heart failure and clearly improves their survival," said Dr. Collins, director of the National Human Genome Research Institute, in Bethesda, Md. "But are we sure that this came about in a way that actually makes the most sense? Are we sure this drug would not have benefited other groups?"

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Although the original clinical trial for BiDil (fixed-dose isosorbide dinitrate and hydralazine) appeared to show that only African Americans clearly benefited from the drug, "it was a relatively modest-sized study, and there could very well have been some benefit in others," Dr. Collins said. "Are we sure that this has anything to do with being African American, or could it be that since African Americans tend to have heart failure on the basis of hypertension, that this [study] says this drug works for hypertensive heart failure and not as well for heart failure from coronary artery disease, which is perhaps more common in other groups?"

By lumping the responders into the category of a racial group, "there's a real risk that this will be interpreted as, 'Oh, well, that means black people really are biologically different. After all, there is this drug that only works for them,'" Dr. Collins said. "That is unjustified by the science that's been done here."

More drugs like BiDil may be coming, but "I don't think this is where we want to go," he said. "I think we want to go in the direction of figuring out, 'Okay, if this drug works for some people and not others, why is that? What specific DNA variants are responsible for the variation in response?' Let's check the individuals and find out whether they're likely to respond to the drug or not, and not use this very murky and potentially misleading and damaging proxy called race, and pretend that we're practicing really upscale medicine. We can do better than that."

Part of the problem with using racial groups to explain health disparities is that race is hard to define, Dr. Collins noted.

"First you have to decide exactly what you mean by race. Race has so much baggage; it carries with it connotations of history and discrimination, culture and society, and dietary practices. It carries a little bit of ancestral geography, of course, but that is probably in the minority of what most people are actually thinking of when the term race appears in the census," he said.

Another problem with separating people into races is that the genetic makeup of all humans is actually quite similar, said Dr. Collins, who leads the Human Genome Project. He noted that people are 99.9% the same, genetically speaking.

"We are much more alike … than most other species on the planet. There's more diversity in a small group of chimpanzees living on one hillside than there is in the entire human race, because we're so new on the scene."

Most of the variation in the human genome over the last 100,000 years "relates to the ways in which those genes were spread as those people migrated out of Africa to other parts of the world," he said. And while genomics may play a role in the reasons for health disparities, "it is almost always in concert with environmental factors."

When new mutations have occurred, for the most part they appear and then disappear, according to Dr. Collins. One exception to that, however, is any mutation that gave people a selective advantage. Skin color is an example.

"If you're dark-skinned in a northern climate where there's not as much sun exposure, you're likely to get rickets, and someone with rickets will have a difficult time in childbirth," he said. "Whereas, if you have light skin at the equator, you're going to end up with a very high risk of skin cancer."

The way that lighter-skinned people evolved from their starting point as black Africans just proves the fact that "we white people are actually mutants," he added.

Now that the Human Genome Project and other private groups have decoded the human genome, researchers are focusing on the 0.1% of the genome that varies among individuals. Dr. Collins is currently managing the International HapMap Project, a cooperative effort among researchers in six countries to build a catalog of human genetic variation.

"In the space of just 3 years, the HapMap has delivered this remarkable picture of how DNA variation has occurred across all chromosomes," he said. "This has been a gold mine of information for people trying to unravel the genetic contributions of diabetes, heart disease, mental illness, blindness, and a whole host of conditions that fill up our hospitals and our clinics."

If medical researchers really want to know how genetic variation affects predisposition to illness, "we're going to need more data, and the good news is, in another 2 or 3 years, we're going to have a lot more data on this subject and will be much more poised to do something about it," he said. ■

Information on the International HapMap Project can be found online at www.hapmap.org.

POLICY & PRACTICE

President's Health Care Agenda

The federal government has a responsibility to provide health care for the poor and the elderly, as well as confront its rising costs, strengthen the doctor-patient relationship, and help people afford insurance coverage, President Bush said in his State of the Union Address. Medical associations praised the president for calling medical liability reform a priority, and for his pledge to make broader use of electronic health records. "We applaud President Bush for calling on Congress to pass medical liability reforms this year," Dr. J. Edward Hill, president of the American Medical Association, said in a statement. But Ron Pollack, executive director of the consumer group Families USA, noted that the president failed to mention the recent efforts by the White House and Congress to cut Medicaid funding. "These Medicaid cuts will drive many low-income seniors and children out of the system and leave millions of people without any health care coverage whatsoever."

Health Care Spending 2004

Growth in U.S. health care spending slowed for the second straight year in 2004, increasing by only 7.9%, according to the Centers for Medicare and Medicaid Services' annual report on health care spending. This compares with an 8.2% growth rate in 2003 and a 9.1% growth rate in 2002. The report attributed slower growth in prescription drug spending as a contributor to this overall slowdown. In 2004, prescription drugs accounted for only 11% of the growth in national health care expenditures, a smaller share of the increase than in recent years. In a statement, the Pharmaceutical Care Management Association attributed the slowdown to increased reliance on generic drugs and mail-service pharmacies. Spending for physician services grew 9.0% in 2004, nearly the same as 2003's 8.6% increase. Hospital spending, by comparison, continued on its upswing, accounting for 28% of the growth in personal health spending between 1997 and 2000 and increasing to 38% by 2002-2004.

Foreign Drug, Wrong Drug

Filling prescriptions abroad may have adverse health consequences because of confusion about drug brand names, the Food and Drug Administration cautioned in an advisory. In an investigation, the agency found that many foreign medications, although marketed under the same or similar-sounding brand names as those in the United States, contain different active ingredients. For example, Norpramin is the brand name for the antidepressant desipramine in the United States. In Spain, the same brand name is used for a drug that contains the proton pump inhibitor omeprazole. The FDA also found 105 U.S. brand names with foreign counterparts which look or sound so similar that consumers who fill such prescriptions abroad may receive a drug with the wrong active ingredient. For example, in the United Kingdom, Amyben is the brand name for the antiarrhythmia drug amiodarone. In the United States, Ambien is the brand name for the hypnotic zolpidem.

Assessing Emergency Care

Emergency care provided in 80% of the states earned mediocre or near failing grades according to the first-ever National Report Card on the State of Emergency Medicine, conducted by the American College of Emergency Physicians. Overall, the nation's emergency medical care system received a grade of C-. Half the states provided less-than-average support for their emergency medical systems, earning poor or near-failing grades. No state received an overall A grade, although the highest overall B grades were given to California, ranked first in the nation, followed by Massachusetts, Connecticut, and the District of Columbia. Arkansas, Idaho, and Utah had the weakest systems, receiving the worst overall grade of D. Emergency care suffers from overcrowding, declining access, high liability costs, and a dwindling capacity to deal with public health or terrorist disasters, the report stated. "Americans assume they will receive lifesaving emergency care when and where they need it, but increasingly this isn't the case," said Dr. Frederick C. Blum, ACEP president. "In a nation that has prided itself on providing the highest-quality medical care in the world, anything less than an A is unacceptable."

Evidence-Based Research

More cost-effectiveness studies are needed to evaluate public health interventions, according to Barbara K. Rimer, Dr.P.H., a member of the Task Force on Community Preventive Services who spoke at an audioconference sponsored by AcademyHealth, Washington. The task force is an independent, nonfederal group that was convened by the Department of Health and Human Services and is supported by staff from the Centers for Disease Control and Prevention and other public and private partners. Cost information is especially important as groups have to make decisions about scarce resources, she said. There are a number of areas where researchers can build on existing evidence-based public health research, said Dr. Rimer, who is also the dean of the school of public health at the University of North Carolina in Chapel Hill. For example, researchers should evaluate what are the most effective sites for public health interventions and which providers are more effective in delivering those interventions. There are also unanswered questions about the best duration for proven approaches such as disease screening, she said.

—Jennifer Lubell

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