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Pharmacogenomics and Ethnic Minorities

It could be argued our enthusiasm over pharmacogenomics is somewhat misplaced because much of the progress in public health has been due to basic measures, including improved nutrition, sanitation, and vaccination. Moreover, the diseases that plague the developed world in the 21st century, such as atherosclerosis, cancer, diabetes, and depression, have profound behavioral and environmental components, including overnutrition, smoking, stress, and a sedentary lifestyle. While behaviors are indeed risk factors for those diseases, once the disease is established, treatment becomes a necessity. Thus, the promotion of health should include a combination of behaviorally and environmentally targeted interventions along with improved and increasingly individualized clinical pharmacology. DNA-based pharmacology has gained popularity. As an example of the appeal of pharmacogenomics, in its second issue in this new millennium, *Time* magazine (Jan 15, 2001) had on its cover a picture of a double-helix DNA molecule inside a prescription bottle, along with the following text: 'Drugs of the future—Amazing new medicines will be based on DNA—Find out how they will change your life.'

A logical question that is raised by such progress is the following: who will benefit from pharmacogenomics? The frequency of alleles that are relevant to drug responses varies across ethnic groups; consequently, the populations who will first benefit from advances in this field are those included in clinical pharmacogenomic research studies. Funding agencies such as NIH simply require that ethnic minorities be included in research projects. However, to benefit an ethnic group, members of the group must be included in high enough numbers to permit data analysis within that group. When that is done, the outcome of the study can affect not only study participants, but it can also impact on an entire community. For this reason, it has been recommended that research in ethnically-identified communities be preceded by community consultation. Our ongoing work in this area has given us new insights into that type of process, and some practical issues have already emerged. For example, we have found out that: (1) a series of medium-sized community consultation meetings in different settings is better than one large and highly engineered meeting; (2) the presence of community leaders is important; (3) direct, personal invitations to community members a short time before the meeting are crucial; (4) time and date are important: different types of people will come on weekdays, evenings, or weekends; (5) the availability of child care can impact on community participation.

In spite of its importance, the process of developing community consultations should not necessarily lead to the automatic inclusion of consultation as a requirement for all research in ethnically identified groups. If a minority group has been systematically under represented in medical research, it would be desirable and fair to increase its participation in clinical research—and that is certainly the spirit of NIH guidelines. But if an elaborate and expensive process of community consultation becomes a universal requirement for the inclusion of identified minority groups in all research, such new layers of requirements and added cost will make research in those communities less likely to occur. We must ensure that efforts to protect minority communities and work productively with them are thoughtfully and selectively implemented without becoming roadblocks that further contribute to health disparities and to the under representation of ethnic minorities in the cutting edge of pharmacogenomics and optimal clinical pharmacology.

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