

# P R E S I D E N T ' S C A N C E R P A N E L

NATIONAL CANCER PROGRAM

NATIONAL CANCER INSTITUTE

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

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## **America's Demographic and Cultural Transformation: Implications for the Cancer Enterprise October 27, 2009**

The President's Cancer Panel held the second meeting of its 2009-2010 series, *America's Demographic and Cultural Transformation: Implications for the Cancer Enterprise*, on October 27, 2009, in Los Angeles, California. During this meeting, speakers presented data on differences in cancer burden among racial and ethnic populations in the U.S. and in other countries. Although many of these disparities are unquestionably due to socioeconomic, cultural, and behavioral factors, there is evidence that genetic background and differences in tumor biology may also contribute.

Racial and ethnic differences in cancer incidence, presentation, and prognosis are well documented. For example, African-American women are more likely than white women to develop estrogen receptor-negative breast cancer, an aggressive form of the disease that is less responsive to currently available treatments. Also, Hispanic children with acute lymphocytic leukemia are more likely than those of other ethnic backgrounds to harbor genetic mutations associated with poor treatment response and increased risk of relapse. Observed differences in tumor biology may be due to environmental exposures, but may also be the result of underlying genetic differences that influence disease development independently or via gene-environment interactions.

Current understanding of cancer risk, progression, and outcomes is based largely on studies of non-Hispanic white populations. It is becoming increasingly apparent that the risk factors, screening guidelines, and treatment regimens identified through this research are often not appropriate for individuals of non-European descent, including populations in the U.S. and around the world. Participation of all populations in research, including clinical trials, is essential to ensure that advancements in understanding of health and disease are broadly applicable; however, recruitment of minority populations to clinical trials and other types of studies has been particularly challenging. Increasing the number of minority physicians and researchers may help in this regard.

The emergence and increasing availability of new technologies are making it possible to move beyond traditional approaches of using self identification or social perceptions of race and ethnicity to examine differences in health. Researchers can now objectively infer an individual's ancestry through genomic analysis. These types of studies can be used to determine whether genetic ancestry is associated with disease risk or outcomes. Genetic and molecular research on high-risk populations—including those defined by race, ethnicity, or ancestry—can also help pinpoint factors that are associated with or contribute to disease. These findings can then often be more broadly applied to benefit genetically similar individuals across many racial or ethnic groups.

The unequal cancer burden among populations is not unique to the United States. Indeed, cancer and cancer health disparities are global issues. Cancer incidence is increasing worldwide, a trend that is particularly apparent in developing countries. An enhanced understanding of the global impact of cancer may help the U.S. address the cancer-related needs of its diverse immigrant populations. International partnerships could allow the U.S. to learn from population-based research on foreign cohorts while building research capacity and improving advocacy efforts within other nations.

The Panel will summarize findings and recommendations from this meeting along with the other meetings in the series in its 2009-2010 Annual Report to the President of the United States.