**BREAST AND PROSTATE CANCER COHORT CONSORTIUM UPDATE: 18-MONTH PROGRESS REVIEW**

**NATIONAL CANCER ADVISORY BOARD**
**June 7, 2005**

The Breast and Prostate Cancer Cohort Consortium (BPC3) was funded for 4 years in June 2003 to study the role of genetic variation in steroid hormone pathways, the insulin-like growth factor (IGF) pathway, and associated receptor proteins in the etiology of breast and prostate cancer. It is the first project to be conducted through the Consortium of Cohorts, a joint initiative of NCI's Division of Cancer Epidemiology and Genetics and Division of Cancer Control and Population Sciences. This partnership of intramural and extramural scientists brings together data from existing cohort studies with prospectively collected biological samples to study the effects on cancer risk of genetic variation and gene-gene or gene-environment interactions. The goals were to create an infrastructure wherein it would be possible to relate genetic variation, particularly low penetrance susceptibility genes, to the population risk of disease, and to foster direct collaboration among basic scientists, genomicists, and epidemiologists working in a population-based setting.

The BPC3 was awarded through the NCI exception process in September 2002, and the NCI Executive Committee recommended that the study be funded for 2 years as a cooperative agreement, with a programmatic progress evaluation in 18 months. The EC requested that the progress evaluation include recommendations about releasing funds for the remaining 2 years of the study.

On January 10, 2005, the programmatic evaluation of progress took place, with external senior scientists providing their expert advice to NCI program staff. All the interim performance goals were met, as were the 'extra credit' goals of having results from parallel analyses for the first genes typed, complete pooled analyses for the first genes typed, and draft manuscripts for the methods paper describing the consortium and multivariate analyses of gene-environment interactions for prostate cancer. The 'extra credit' goal of having a preliminary manuscript for multivariate analyses of gene-environment interactions for breast cancer was very nearly met, with an expected completion date of June 2005. For SNP discovery, 560 targets were sequenced in each of the 190 advanced cancer case DNAs, for a total of 40 Mb of sequencing to date. All these data have been made publicly available through the BPC3 public-access websites. For genotyping, cost-effective and accurate genotyping has been implemented across the 6 cohort sites, with six genes completed (AR, CYP19, HSD17B1, CYP17, PGR, ESR2), for a total of 2.2 million genotypes generated in 10 months. The genotyping data have been transferred to the cohort investigators and to the data pooling centers. For the association studies, cases and controls have been identified for the nested case-control analyses, and information on covariate variables was extracted and sent to the data pooling centers, where the data were checked and the databases made available to the analysis teams.

The external advisors were profoundly impressed with the BPC3 progress, and enthusiastically recommended continuation of funding. NCI staff presented the progress and these recommendations to the EC in February 2005. The EC was, in turn, also extremely pleased with the progress, and recommended continuation of the consortium's funding.