

Recovery Act Investment Enables The Cancer Genome Atlas To Map 20 Cancers

Fueled by the convergence of Recovery Act funds, unprecedented scientific opportunities and the President's focus on conquering cancer, NIH will invest \$275 million over the next two years in The Cancer Genome Atlas (TCGA) to chart the complex pathways involved in more than 20 types of cancer.

Every day more than 1,500 Americans die from cancer – about one person every minute. As the U.S. population ages, this rate is expected to rise unless ways are found to more swiftly identify vulnerabilities within cancer cells and develop new therapies aimed at those targets.

In all types of cancer, glitches in a cell's complete set of DNA, or genome, lead to uncontrolled cell growth. The comprehensive maps created by TCGA will show what is wrong in the genome of each type of cancer. This information, which will be rapidly deposited into public databases for use by the worldwide research community, will accelerate efforts to find better ways of diagnosing, treating and, ultimately, preventing cancer.

Jointly administered by National Cancer Institute (NCI) and the National Human Genome Research Institute (NHGRI), both part of NIH, TCGA will build upon the success of a three-year pilot project that developed the policies, infrastructure, production pipelines and collaborative networks needed for such a large-scale, systematic approach. The pilot focused on types of brain, lung and ovarian cancers.

NCI and NHGRI are currently deciding which types of cancer will be part of TCGA. Factors to be considered include: the cancer's frequency and severity, whether effective treatments currently exist and the availability of high-quality tissue samples. TCGA also will take into account mapping efforts being planned by other nations. Examples of cancers likely to be considered a high priority for TCGA are a type of kidney cancer called clear cell renal cell carcinoma and a type of breast cancer called invasive ductal carcinoma.

Specifically, NCI and NHGRI plan to use approximately \$175 million in Recovery Act funding – including \$25 million in NIH Signature Project support – over the next two years to collect more than 20,000 tissue samples from more than 20 cancers, complete comprehensive maps of the genomic changes in 10 of those cancers and sequence and characterize at least 100 tumors of up to 15 additional cancers. NCI and NHGRI will also each commit \$50 million in non-Recovery Act funds to TCGA over this two-year period.

In the following three years, the TCGA research network will broaden its mapping efforts and generate more in-depth analyses of all of the cancers. Funding for that phase of the program will be finalized shortly.

TCGA's research network consists of more than 150 researchers at dozens of institutions across the nation. For more information about the Recovery Act investment in TCGA and TCGA in general view:

- [TCGA Backgrounder](#)
- [Quick Facts](#)
- [Frequently Asked Questions](#)
- [Image Gallery](#)

To learn more about TCGA, its research components, cancers selected for study and more, go to <http://cancergenome.nih.gov>.