## Impact of Sequestration Cancer Research



## The across-the-board budget cuts known as sequestration took effect on March 1, 2013 and will have a devastating effect on cancer research in the United States.

Under sequestration, funding for cancer and other medical research supported by the National Institutes of Health (NIH) is being cut by more than \$1.5 billion (5 percent), including more than a \$250 million reduction in cancer research funding, in FY 2013. And, additional major funding cuts are just around the corner in FY 2014. The fight against cancer will be dealt a major setback by these cuts if the Budget Sequestration is not turned off.

Past Congressional support for cancer research has contributed to the overall reduction in cancer incidence and mortality, and an improved quality of life for survivors, since the 1990s. Sustained funding in the fight against cancer is critical to achieving long-term and permanent success. Unfortunately, NIH funding has been unable to fully meet scientific needs or keep up with inflation for some time. When accounting for inflation, the NIH budget in FY 2012 was 17 percent smaller than it was in FY 2003.

According to the director of the National Cancer Institute (NCI), the institute is poised "to take advantage of new and emerging scientific opportunities in cancer research." These opportunities will be hampered significantly by these looming budget cuts. Under sequestration, FY 2013 NIH funding will drop to \$29 billion, less than the amount appropriated in FY 2008. When accounting for inflation, this would represent a 23 percent cut in the NIH budget, taking spending nearly to the FY 2001 level.



## Sequestration's Impact on the National Economy



By some estimates, a \$1.5 billion cut to the NIH could lead to **1,380 fewer research grants** being funded this year and will have a devastating impact on the cancer research enterprise.

It is estimated that this cut could lead to 20,500 fewer jobs across the country and a \$3 billion decrease in economic activity.

## Sequestration's Impact on Scientific Progress

Most troubling is the myriad of exciting opportunities in cancer research that could potentially be lost under this uncertain future. Today's progress in research and promising scientific opportunities require a sustained commitment in order for them to bear any fruit that will benefit cancer patients in the future.

The Cancer Genome Atlas (TCGA) began in 2006 as a pilot study that delved into the depths of the genetic sequence of three types of cancer. Since then, TCGA has developed into a program that is now studying 20 different cancers, deciphering their genetic codes and providing valuable targets for further exploration.

- In the past year, researchers studying brain tumors known as glioblastoma multiforme (GBM) discovered that about ten percent of patients with one of the four subtypes of GBM live longer than patients with other subtypes; however, these patients' tumors are unresponsive to currently available treatments. The good news is that this discovery provides researchers with a new molecular target for drug development.
- A similar effort within TCGA to study ovarian cancer established that there is a common and important mutation shared by virtually all ovarian cancers. This research will likely influence drug discovery efforts for this and other diseases.
- Most immediately, genomics are starting to be used to customize cancer treatment for patients. The
  fundamental goal is to identify the most effective course of treatment, while sparing patients from the
  burden of unnecessary and harsh side effects as well as saving time wasted on ineffective treatments.
  Some of the greatest progress in this area has been made in metastatic melanoma. Some of the most
  promising treatments approved by the Food and Drug Administration over the past couple of years rely on
  the discovery of genetic mutations that are central to the disease.

The advances being made in cancer genomics are only a small sample of the great strides being made in cancer research and the progress that we risk losing if funding for cancer research is not protected and sustained.