

10 RECENT IMPACTS ON CANCER

The American Cancer Society's groundbreaking research program is finding answers that save lives from cancer and putting them into action. For nearly 70 years, the Society has invested in research to find cures and better ways to treat and prevent the disease. Following are some recent highlights of their work:



1. Tiny tech could be the future of cancer monitoring: Nanoscale technology is infiltrating everything from computers to cars to clothing. Such tiny tech – 80,000 to 100,000 times smaller than a single strand of human hair – may also become the basis for a next generation cancer detection and monitoring system.



2. Investigating immunotherapy's promise: The cancer research world is dedicating increasing energy to a rapidly evolving type of treatment that has the potential to be more effective – and in some cases less toxic – than many of today's existing options. Using the body's own natural system for fighting disease, immunotherapy may also offer a lifeline for patients with certain types of cancer who have exhausted other treatment options.



3. New lung cancer mutations found: The identification of four new types of genetic mutations in the most common form of lung cancer could open the door for targeted treatment options for many more patients. This discovery – made in part by Society-funded researcher Alice Berger, PhD, of the Dana-Farber Cancer Institute – adds to the existing scope of known lung cancer mutations.



4. Getting breast cancer cells to stop multiplying: Society-funded researcher Xiaoting Zhang, PhD, is investigating ways to lull breast cancer cells into a permanent sleep, known as senescence, which could potentially stop a tumor in its tracks.



5. Cancer death rates down: The rate of death from cancer in the United States continues to decline among both men and women, among all major racial and ethnic groups, and for the most common types of cancer.



6. Lung screening importance: Researchers from the American Cancer Society have found that screening all former and current smokers who fall within guideline recommendations could prevent up to 12,000 lung cancer deaths a year in the US.



7. Be a stronger survivor: A review of scientific studies finds that physical therapy and other types of rehabilitation can improve cancer survivors' quality of life by addressing the physical and emotional problems that most report experiencing.



8. Colon cancer screening science: Society grantee Bert Vogelstein, MD, of the Johns Hopkins Oncology Center won the first-ever Breakthrough Prize in Life Sciences in 2013 – an award of \$3 million – for his discovery of three genes related to the development of colon cancer, which led to advances in the prevention and early detection of colon cancer.



9. Putting cancer data in the hands of decision makers: The American Cancer Society, the International Agency for Research on Cancer, and the Union for International Cancer Control partnered on *The Cancer Atlas, Second Edition* and a new interactive website – cancer.org/canceratlas – to allow global leaders to better understand the cancer landscape and take action to reduce the burden worldwide.



10. Fighting back against the tobacco epidemic: The American Cancer Society and the World Lung Foundation launched *The Tobacco Atlas, Fifth Edition*, and its companion mobile app and website (tobaccoatlas.org). The *Atlas* graphically details the scale of the tobacco epidemic, the progress being made in tobacco control, and opportunities to increase tobacco control globally.