

# Cancer

Every day more than 1,500 Americans die of cancer- about one person every minute. Changing this statistic requires understanding who is at risk for cancer, the best ways to diagnose cancer early, and the best ways to treat cancer. Cancer is at its heart a genetic disease, a progression from normal cells to abnormal, precancerous, then cancer cells. Some of the most promising advances in cancer involve the application of genetic and genomic technologies to face those challenges.

**All of our efforts in cancer research are focused on creating a better understanding of cancer — one that informs and improves diagnosis, treatment, and prognosis for everyone.**

## Early detection tools

With nearly every type of cancer, patients have better outcomes when the cancer is detected early. We are developing novel methods of cancer detection that can diagnose cancer earlier, with reduced cost and using less invasive methods. Leveraging previous findings in cancer, researchers imagine new possibilities for early detection that can save lives.

## Precision medicine

Precision medicine means connecting patients with the treatment that matches their tumor. Each tumor has a fingerprint defined by DNA sequence and the presence of certain markers often identified through genomic technologies. In some cases, those fingerprints are well-known and determine which therapy is the best match while in other cases, the fingerprints give some information but there are no targeted treatments to match. Research in this area aims to link each patient with the right therapy and ultimately make them survivors, not statistics.

## Community Cancer Efforts

HudsonAlpha researchers and scientists around the world apply genomic technology to uncover the genetic causes of a variety of diseases including cancer. A critical next step is to put that knowledge to work to improve health in our communities. Through the Information is Power initiative, a genetic test for cancer risk, HudsonAlpha is providing information about inherited cancer risk to patients in North Alabama and beyond.



**2nd** most deadly disease in the U.S.



**4 in 10** people diagnosed in their lifetime. In 2020, there will be an estimated 1.8 million new cancer cases diagnosed.



**\$175B** cost of cancer in 2020 — an increase of 39% over ten years.



**8+** cancers have been studied at HudsonAlpha include kidney, colon, ovarian, breast, pancreatic, prostate, glioblastoma, sarcoma and more.



**>4,400** people have learned their genetic cancer risk through of HudsonAlpha's *Information is Power Initiative*.



**1 in 8** women will develop breast cancer in her lifetime and

**57%** of ovarian cancer patients are diagnosed with metastases cancer. HudsonAlpha is working on new technology for early detection to save more lives.

To learn more, visit [HudsonAlphaFoundation.org](https://HudsonAlphaFoundation.org)