

Health gap between adult survivors of childhood cancer and siblings widens with age

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Adult survivors of childhood cancer face significant health problems as they age and are five times more likely than their siblings to develop new cancers, heart and other serious health conditions beyond the age of 35, according to the latest findings from the world's largest study of childhood cancer survivors. St. Jude Children's Research Hospital led the research, results of which appear in the March 17 issue of the *Journal of Clinical Oncology*.

The federally funded Childhood Cancer Survivor Study (CCSS) found that the [health](#) gap between survivors and their siblings widens with age. Survivors who were 20 to 34 years old were 3.8 times more likely than siblings of the same age to have experienced severe, disabling, life-threatening or fatal [health conditions](#). By age 35 and beyond, however, survivors were at five-fold greater risk.

By age 50, more than half of [childhood cancer survivors](#) had experienced a life-altering health problem, compared to less than 20 percent of same-aged siblings. More than 22 percent of survivors had at least two serious [health problems](#) and about 10 percent reported three or more. The problems included new cancers as well as diseases of the heart, lungs, liver, kidneys and hormones.

"Survivors remain at risk for serious health problems into their 40s and 50s, decades after they have completed treatment for [childhood cancer](#)," said first and corresponding author Gregory Armstrong, M.D., an associate member of the St. Jude Department of Epidemiology and Cancer Control. "In fact, for survivors, the risk of illness and death increases significantly beyond the age of 35. Their siblings don't share these same risks."

Among survivors who reached age 35 without serious health problems, 25.9 percent developed a significant health problem in the next decade. In comparison, 6 percent of siblings developed their first serious health condition between the ages of 35 and 45.

The study involved 14,359 adult survivors who were treated for a variety of pediatric cancers at one of 26 U.S. and Canadian medical centers. The research also included 4,301 siblings. For this study CCSS investigators focused on 5,604 survivors who have now aged beyond 35 years. The results provide the broadest snapshot yet of how the first generation of childhood cancer survivors is faring as they age. The oldest survivors in this study were in their 50s.

The findings highlight the importance of lifelong, risk-based health care for childhood cancer survivors, Armstrong said. Depending on their cancer treatment and other risk factors, follow-up care may include mammograms and other health checks at a younger age than is recommended for the general public.

These screenings are designed to identify health problems early when there is a greater chance to prevent illness and preserve health.

Today, St. Jude researchers are studying strategies to educate and empower survivors to ensure they receive recommended screenings. Screening guidelines were developed by St. Jude and other members of the Children's Oncology Group (COG), which includes pediatric cancer researchers and institutions around the world.

The importance of such efforts is expected to grow along with the nation's population of childhood cancer survivors. The U.S. is now home to more

than 363,000 pediatric cancer survivors. An overall long-term pediatric cancer survival rate of 80 percent means the number of survivors will increase.

The study also adds to evidence that some survivors experience accelerated aging, possibly due to their cancer treatment. Researchers are still trying to identify the cause. In this study, 24-year-old childhood cancer survivors and their 50-year-old [siblings](#) reported similar rates of severe, life-threatening or fatal health problems.

This study involved survivors whose cancer was diagnosed between 1970 and 1986 when they were [age](#) 20 or younger. All survived at least five years. Since then, cancer therapies have evolved and include less radiation and chemotherapy, both of which can have long-term health consequences. The CCSS is also studying the health of adult [survivors](#) from a more recent treatment era.

Provided by St. Jude Children's Research Hospital

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