Childhood Cancer Research Report

St. Jude Children's Research Hospital Spotlights Successes And Challenges Of Childhood Cancer

(NAPSA)—Advances in diagnosis and treatment mean more children are living longer with cancer than ever before, with about 270,000 childhood cancer survivors alive today nationwide. Despite these advances, cancer remains the leading cause of death due to disease among U.S. children over 1 year of age.

While September is National Childhood Cancer Awareness Month, for researchers at St. Jude Children's Research Hospital, it is a year-round mission to research new ways to help more children live long, active lives while also working to better understand the challenges childhood cancer survivors face.

"Our goal is to push the cure rate for all childhood cancers to 90 percent in the next decade. Rapid advances in science and technology, especially at the genetic level, are going to make that possible," said Dr. William E. Evans, St. Jude director and chief executive officer. St. Jude is the nation's only cancer center focused specifically on childhood cancer.

This year, cancer will be diagnosed in more than 10,000 children and adolescents age 14 and younger. For some, including those with acute lymphoblastic leukemia (ALL), the fear of diagnosis will be tempered by the optimism of cure rates near 90 percent, thanks to researchers at St. Jude and other institutions around the world. For other children diagnosed with cancer, optimism is in shorter supply. Despite decades of research, cure rates for some childhood cancers remain below 50 percent.

St. Jude investigators recently reported in the New England Journal of Medicine that they had reached the critical 10-year cure rate of 90 percent for patients with ALL, a cancer of the white blood cells. This year, ALL will be diagnosed in about 3,000 U.S. children, making it the most common childhood cancer. More tailored chemotherapy linked to the genetics of the patient and the patient's tumor, combined with more sophisticated monitoring of the patient's response to treatment, has been key to the improved survival.

Researchers are working to translate laboratory findings into potential new treatments for childhood cancers.

Researchers believe the next generation of tools to understand, diagnose and treat cancer will come from the study of cancer cells and mapping the human cancer genome or blueprint. Technological advances have enhanced the speed and reduced the cost of decoding the genes in a patient's cancer cells and comparing them to the DNA in normal cells. St. Jude is at the forefront of pediatric cancer genome research, with a goal to catalog the genetic changes that give rise to the uncontrolled cell division that is a hallmark of all cancers.

In order to better understand cancer cells, researchers need access to tissue samples. The researchers at St. Jude are uniquely positioned to conduct this type of research because the hospital is home to one of the world's largest and most complete repositories of biological information about childhood cancer. Collected since the 1970s, St. Jude has more than 50,000 biological samples from patients who agreed to participate. The bank's contents include tumor, bone marrow, plasma, serum and blood samples.

As the most common solid malignancies of childhood, brain tumors are a leading cause of cancer death in children. Improved survival rates in certain brain tumors like medulloblastoma, where patient cure rates are nearing 75 percent, are being helped by research at St. Jude. But similar rates have been difficult to achieve for other brain tumors, including gliomas and some germ cell tumors. By linking studies of neurodevelopment and clinical investigations of brain tumors, researchers are working to translate laboratory findings into potential new treatments.

The pediatric Neurobiology and Brain Tumor Program at St. Jude is one of the nation's largest. The program's recent efforts include the integration of genome-wide gene expression and genetic microarray profiling to improve brain tumor classification and treatment.

"We at St. Jude are never satisfied with where we are," Evans said. "When we come to work, we're trying to push cure rates higher and higher."

For more information about childhood cancer, go to www.stjude.org.