

CHILDHOOD CANCER & GENOMICS

Looking Beyond Family History

IN **2010**

the Pediatric Cancer Genome Project is launched as an unprecedented effort by St. Jude and Washington University in St. Louis to identify the genomic changes that give rise to some of the world's toughest childhood cancers.

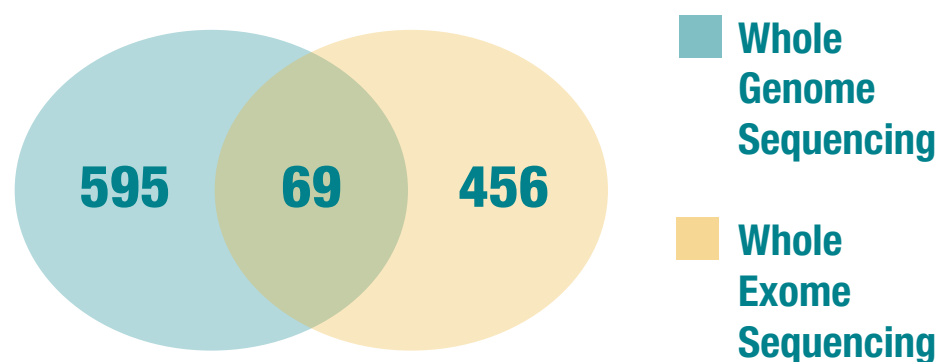
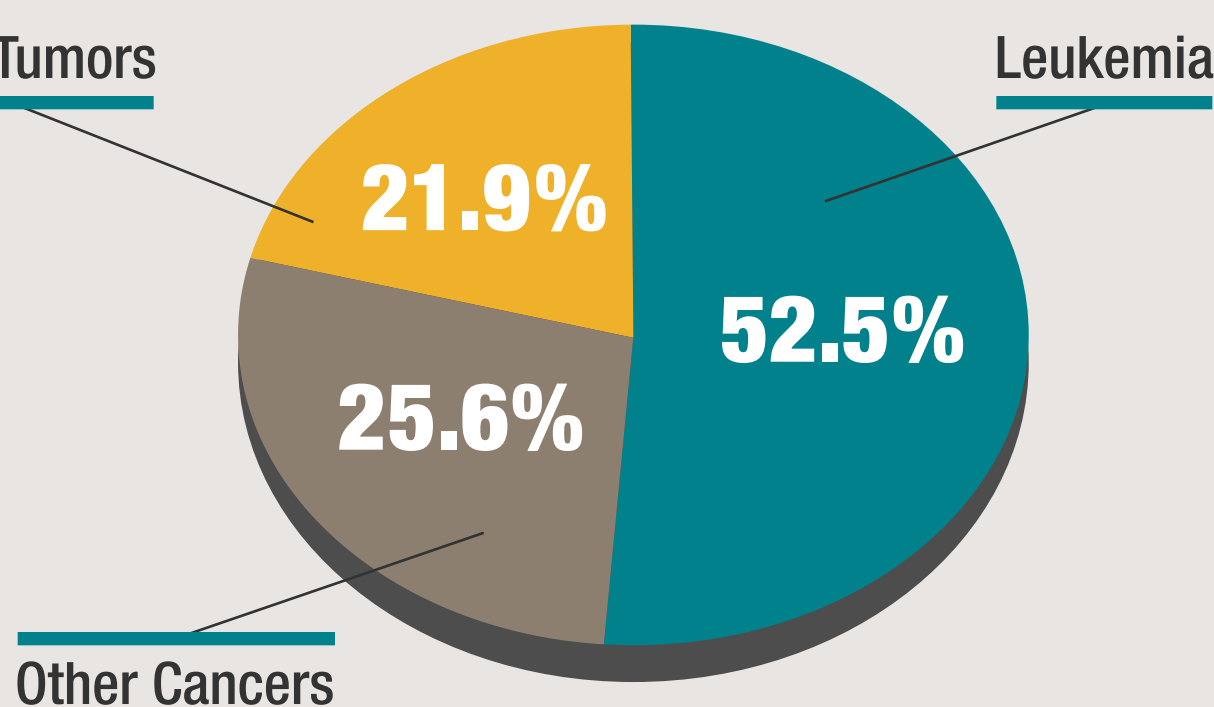
IN **2015**

a landmark study from the Pediatric Cancer Genome Project is published in the *New England Journal of Medicine*.

1,120
children with cancer
had their DNA sequenced

Brain Tumors

TYPES OF CANCER



The paper completes the most comprehensive analysis yet of the role genes associated with cancer predisposition play in childhood cancer.

FINDINGS

> 8.5%

of patients carry a mutation in a gene that likely increases their cancer risk

genetic predisposition:

An increased chance to develop a certain condition because a change (mutation) is present in one or more genes within the body's cells.

AND

Out of the 58 patients with a predisposing mutation and available family history



40%
had a **positive**
family history
of cancer



60%
had **no recorded**
family history
of cancer

CONCLUSION

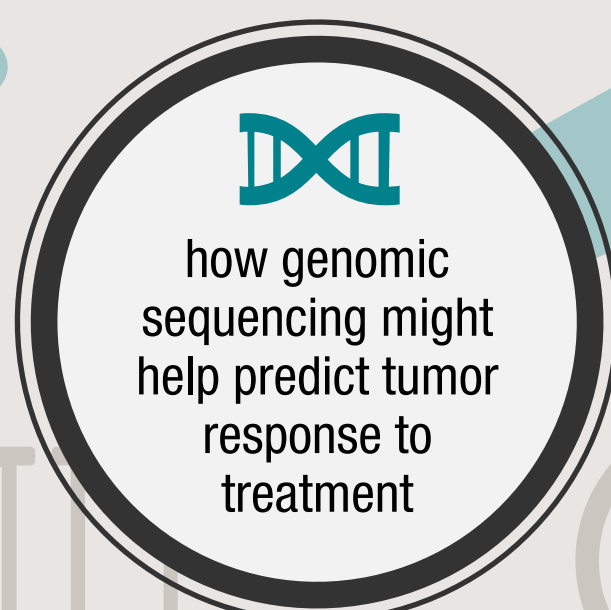
"Family history should not be used as the sole indication to guide the provision of genetic testing."

Next Steps

IN **2015**

St. Jude launched *Genomes for Kids*, a clinical research study looking at using genomic sequencing to understand the similarities and differences between tumor cells and healthy cells in children.

Researchers hope to learn:



IN **2015**

the *St. Jude Hereditary Cancer Predisposition Clinic* continues to expand to help evaluate & care for children, and their families, who are at increased risk of cancer.

The clinic team includes:



DOCTORS

PSYCHOLOGISTS

GENETIC COUNSELORS

SOCIAL WORKERS

NURSES