FACT SHEET for PEDIATRIC BRAIN TUMORS

BRAIN TUMORS & CHILDHOOD CANCER

- Brain and other CNS tumors are the most common cancer in children age 0-19 years in the United States.\(^1,\)\(^2\)
  - For children age 5-9 years, leukemia is the only cancer more common than brain tumors.
  - Infants < 1 year old have the highest incidence of brain tumors of all children age 0-19 years.
- Brain and other CNS tumors are the largest cause of cancer-related death in children age 0-14 years in the United States. It is estimated that there will be 4,630 new cases of brain tumors in children age 0-19 years in 2021.\(^2\)

GLOBAL INCIDENCE AND MORTALITY

- It was estimated that there were 30,766 new cases of primary brain and other CNS tumors in children and adolescents age 0-19 years in 2020, 24,388 of which were in children 0-14 years old.\(^3\)
- It was estimated that there were 15,337 deaths due to primary brain and other CNS tumors in children and adolescents age 0-19 years in 2020, 11,889 of which were in children 0-14 years old.\(^3\)

HISTOLOGY DISTRIBUTION

Source: CBTRUS (NPCR & SEER), 2013-2017
• Gliomas account for 51.6% of tumors in children age 0-14 years and 31.1% of all tumors in the adolescent age group. 2
• The most common type of glioma in children age 0-14 years is pilocytic astrocytoma (17.7% of all tumors). 2
• Embryonal tumors account for 12.7% of all primary brain tumors in children age 0-14 years. 2 Of these, medulloblastoma, atypical teratoid/rhabdoid tumor and primitive neuroectodermal tumor account for 64.7%, 16.6%, and 9.5%, respectively. 2
• Tumors of the pituitary are the most common CNS tumor in adolescents age 15-19 years (31.8% of all tumors). 2

PREVALENCE IN THE UNITED STATES
• The prevalence for malignant brain and other CNS tumors in children age 0-14 years was estimated to be 22.31 per 100,000 population in 2010 meaning there were approximately 13,657 cases from children living with these tumors in 2010.4

SURVIVAL AFTER DIAGNOSIS WITH CHILDHOOD BRAIN TUMORS IN THE UNITED STATES
• Survival time after diagnosis with primary brain and other CNS tumors varies significantly by both histologic type of tumor and age. 2, 5
  – Atypical teratoid/rhabdoid tumors (ATRT) and high-grade gliomas were the histologic groups with the lowest relative survival after diagnosis.
  – Pilocytic astrocytoma had the highest survival rates after diagnosis.
• Relative survival rates generally improved with increasing age at diagnosis, with poorest survival in those <1 years old at diagnosis. 2, 5

MORTALITY DUE TO CHILDHOOD BRAIN TUMORS
Brain and other CNS tumors are the most common cause of cancer death in children age 0-14 years in the United States. 1, 2
• High grade gliomas were the cause of the greatest proportion of deaths (44.9%), followed by medulloblastoma (11.5%) and ATRT (8.2%). 2
• By site, brain stem tumors were the cause of the greatest proportion of deaths (37.3%), followed by cerebellar tumors (16.6%). 2
• It was estimated that in 2009, a total of 47,631.5 years of potential life were lost due to brain tumors in children and adolescents age 0-19 years in the United States. 6

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REFERENCES