Background

- Pediatric low-grade glioma (pLGG) is the most common brain tumor in children, accounting for approximately 30% of all central nervous system tumors.
- Despite the indolent nature of low-grade lesions and high long-term survival, pLGG is associated with persistent long-term treatment-related morbidities.

Objective

- We conducted a retrospective study of linked claims and electronic health records (EHRs) to characterize the costs associated with the treatment of pLGG.

Methods

- A retrospective study was performed using the Optum® de-identified Market Clarity Dataset linked claims (commercial, Medicare advantage and managed Medicaid beneficiaries) and EHRs of subjects 5–18 years of age, with an ICD-10 code for brain neoplasm and ≥1 physician notes between January 1, 2017 and June 30, 2018 (Figure 1).
- The index date was first claim or EHR with an ICD-10 code for brain neoplasm.
- pLGG-relevant data from physician notes was identified using natural language processing.
- The observation period included 3 months prior to index date (pre-index) and 6-month segments from index date for 36 months (post-index).
- Cases had either continuous EHR activity or continuous insurance coverage throughout the index period.
- Results for procedures and medication use were reported as averages throughout the 36-month post-index follow-up period.

Results

- Of 2841 patients assessed for eligibility, a total of 154 patients with pLGG were identified (Figure 1).
- Median age was 11 years, 49% of patients were female, 75% were non-Hispanic white, 13% Hispanic, 5% African American, 1% Asian and 6% other/unknown.
- 56% had commercial benefits and 44% had Medicaid benefits.
- Study results are reported with ranges over a three-year follow-up period (Figures 2–6).

Conclusions

- Patients with pLGG often require long-term medical care and high levels of healthcare resources to treat their disease and its sequelae.
- Most patients with pLGG who receive disease-specific treatment will relapse and face a higher burden of disease.
- Further studies using integrated data sources are warranted to help understand the burden of pLGG and inform evidence-based healthcare planning for these patients.

References


Acknowledgments