**Introduction:** Encephalon malignant neoplasia (EMN) is a harmful type of cancer and its most aggressive phenotypes lead patients to decease in 12-18 months even after all state of art therapies, that remain inefficient and expensive to patients, families, and health systems. The aim of this work was to analyze Brazilian Sistema Único de Saúde (SUS), the national public health system, expenditures regarding EMN patients compared to all neoplasia patients in a decade (2008 to 2017). **Methodology and resources:** data were collected from SUS bench data DATASUS and analyzed from 2008 to 2017 regarding EMN and general neoplasia concerning (per month) total expenditure value; number of hospitalizations; mean hospitalization value; mean of permanence time per month and death rate. **Results:** More than 0,3% of SUS costs were directed to EMN patients, although they represent 0,1% of total hospitalizations. Mean EMN patients hospitalization value was almost 80% higher compared to general neoplasia patients and hospitalization time was twice-fold compared to general neoplasia patients. Moreover, EMN patients had a death rate almost four-time fold general neoplasia patients. **Discussion and conclusion:** EMN therapies remained expensive and lacked efficacy by the evaluated time with disproportional SUS cost percentages for these patients.