tial component of treatment for most pediatric medulloblastoma patients, it is associated with neurocognitive compromise. Effects include deficits in cognitive speed and performance efficiency, aspects of attention, as well as working memory. Along after treatment it is difficult to tease apart relative contributions of other risk factors to neurocognitive functioning beyond radiation. We examined neurocognitive functioning in a sample of pediatric medulloblastoma patients prior to radiation therapy, including investigation of neurocognitive risk factors such as hydrocephalus, presence of posterior fossa syndrome, and duration of neurological symptoms prior to diagnosis. Results indicated that the sample functioned in the average range in terms of overall IQ (n=34, X=103). Patients also functioned in the normal range in terms of language-based ability (X=106), nonverbal ability (X=104), and working memory (X=103). However, the sample performed statistically significantly lower than the general population in terms of cognitive speed and efficiency (z=2.026, p=0.043). The sample was also rated by parents as exhibiting more attention problems relative to the general population (z=1.988, p=0.047). There was no specific association with hydrxencephaly, duration of symptoms, or history of posterior fossa syndrome. Results suggest weaknesses in attention and processing speed may exist in some pediatric medulloblastoma patients prior to radiation therapy secondary to tumor and related complications. Implications for future research are presented, along with difficulties inherent to “baseline” assessment with pediatric brain tumor survivors.

QOL-31. USE OF PATIENT-REPORTED OUTCOMES TO IDENTIFY YOUTH AT RISK FOR IMPAIRED OVERALL HEALTH Lisa Ingorski1,2, Rebecca Williamson Lewis2, Ann Mertens1,2, and Toby MacKay3,1
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Pediatric brain tumor survivors often experience persistent and clinically significant late-effects following treatment. Critical to understanding morbidity is utilization of patient-reported outcomes (PROs). The current study evaluated PROs of individuals previously diagnosed with a pediatric brain tumor and identified risk factors for less optimal overall health. Participants included 127 youth 10.59±4.81 (M±SD) years old at survey completion and 4.45±3.82 years from diagnosis of a brain tumor (34.6% Pilocytic Astrocytoma, 9.4% Medulloblastoma, 9.4% Ependymoma, 7.9% Germinoma, and 35.6% Other). Outcomes were assessed via Patient-Reported Outcomes Measurement Information System (PROMIS) parent-proxy measures. Overall health was assessed via PROMIS Global Health (i.e., a measure of general, physical, mental, and social health). Univariate and logistic regression analyses examined potential demographic, medical, and psychosocial factors (e.g., age, race, diagnosis, treatment) related to poor global health. Initial descriptive analyses suggested that most youth experienced anxiety symptoms (T-score MasD=50.71±11.54), depressive symptoms (47.96±10.34), cognitive functioning (46.52±9.10), and fatigue (55.14±10.62) similar to their peers. However, 31.0% of youth experienced impaired global health (T-score=40). After adjusting for other potential covariates, the final model suggested that youth with significant anxiety (OR=6.20, CI=1.56–24.63), youth with significant fatigue (OR=7.31, CI=2.41), and youth with potential surgery resection (OR=0.25, CI=0.07–0.96) were at risk for impaired global health. Identifying those at-risk for impaired health is essential to reducing survivor morbidity and optimizing overall quality of life following treatment. Current data suggest potentially modifiable factors that may improve long-term outcomes for survivors of pediatric brain tumors.

QOL-32. THE PROMOTE STUDY: QUALITY OF LIFE COMMUNICATION NEEDS OF CHILDREN, ADOLESCENTS, AND THEIR FAMILIES ATTENDING OUTPATIENT CONSULTATIONS AFTER TREATMENT FOR A BRAIN TUMOUR Shelly Stubley1,2, Anita Freeram1, Christina Liossi1, Anne-Sophie Darlington1,2,3,4, Christopher Morris4, David Walker5,6, and Colin Kennedy7,8, Kim Bull9
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BACKGROUND: Childhood brain tumours and their treatment can reduce health-related quality of life (HRQoL) and cause anxiety and depression. Long-term social isolation and communication barriers among outpatients can allow early identification and treatment of these issues. We explored family communication needs in survivors of childhood brain tumours receiving six-monthly follow-up outpatient review within the English NHS. METHODS: Semi-structured interviews were conducted with 18 families whose child aged 8–17 years had finished treatment for a brain tumour within the preceding five years. Thematic analysis used the Framework Method. RESULTS: Adjusting to change and finding a “new normal” was the overarching theme to emerge. HRQoL issues included worry and stability, coping with physical changes, challenges at school, independence, and adjusting to changes in abilities. Survivors described a need for greater knowledge about and more support with changes in cognitive functioning. Parents spoke about the impact on the wider family and their changed role as carers among the child’s HRQoL. Communication barriers included shorter term memory loss, shyness, and the need to suppress or regulate emotions evoked by these issues. Communication needs included more information regarding recovery and rehabilitation and/or helping manage anxiety or emotional health. CONCLUSIONS: The above communication needs and barriers should be addressed. Having a digital record to document and share this information systematically could improve service planning and provide patients and their families with the resources to reach their full potential and experience a better HRQoL.

QOL-33. THE PROMOTE STUDY: DEVELOPMENT AND TESTING OF KLIK-UK, AN ONLINE PLATFORM, TO ENHANCE OUTPATIENT COMMUNICATION ABOUT HEALTH-RELATED QUALITY OF LIFE (HRQOL) AT THREE UK CHILDREN’S BRAIN TUMOUR TREATMENT CENTRES (CBTTCs) Kim Bull1, Shelly Stubley2, Natalia Kozoupi3, Anne-Sophie Darlington1,2,3,4, Christopher Morris4, Dan Plotnick5, and Colin Kennedy6
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BACKGROUND: The HRQoL of survivors of childhood brain tumour is significantly reduced into adulthood but is not systematically assessed. In the UK, referral for appropriate support is often reactive rather than proactive. We developed KLIK, the online Dutch platform, to enable the systematic assessment of HRQoL in the UK NHS using patient-reported outcomes measures (PROMs) which could be fed back to clinicians during outpatient review appointments. METHODS: PARTICIPANTS: Children and young people who were survivors of childhood brain tumour diagnosed within preceding 5 years and their parents. SETTING: Three UK CBTTCs – UHS, Southampton; GOSH, London; and QMC, Nottingham. PROCEDURE: KLIK-UK was developed throughout the study and barriers and opportunities for its use logged. A. Development phase: relevant PROMs were identified through systematic literature review and families’ views regarding choice of PROMs, communication needs within consultations, and KLIK-UK were obtained by interview. B: Feasibility phase: KLIK-UK was tested in outpatient review appointments following by interviews with patients and clinicians. C: Pilot study of 15 parents and 10 clinicians participated. The PedSQL-Core module was preferred by families. Communication needs and barriers were identified. All clinicians reported that they could see the potential value of using KLIK-UK but views differed as to whether they could fit it into the clinic. D: Feasibility testing of interviews from the feasibility phase will be reported. CONCLUSION: KLIK-UK is ready for use in the UK but will need to be adapted according to local resources, needs, and preferences. 1 Bull et al. 2019 https://doi.org/10.1093/nephon/kip64

QOL-34. CAREER FAIR AND REGIONAL EXPO: ADVOCATING FOR THE LONG TERM SUCCESS OF BRAIN TUMOUR SURVIVORS Clay Hoering1,2, Karlie Allen1, Kara Noskoff1, Jamie Frediani1, Jody Pathe1, Casey Koerner1, Veronica De Rosa1, Nina Madrid1, Kristin Miller1, Grace Mucci1, Chenue Abongwa1, and Ashley Plant2,3
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Pediatric cancer survivors have increased unemployment and lower educational attainment rates. This is most significant in brain tumor survivors who show five-fold relative odds increase in unemployment over other pediatric cancer survivors. The long-term effects of brain tumor treatment persist along difficulty with work and school reintegration for a child and Young Adult (AYA) population. To address this, our team designed an annual job fair for AYA Neuro-Oncology survivors. Vendors were invited representing disability advocacy groups, legal services, school and career counseling, and financial counseling. Survivors shared their on-site interviews. Additionally, brain tumor survivors were invited as inspirational speakers for the event. Between thirty to forty survivors have attended each event. Pre- and post-surveys, as well as 3- and 6-month follow up was obtained. Universally, the day was engaging and motivating, both for survivors and staff, and stimulated conversation for pursuing career and ac-

Abstracts
cognitive success within families and the care team. While all the patients took applications, none of the patients completed the on-site interviews, finding them overwhelming. Even at the 3- and 6-month follow-ups following the first interview, the survivors continued to desire varying levels of application completion; no one who was previously unemployed attained new employment. This improved after pre-event meetings were held with survivors to participate in resume building and interview preparation. Currently, two survivors are unemployed and are still employed at 1 year and five survivors were able to advocate for their disabilities services in college with help of a non-profit legal assistant.

QOL-36. USE OF CANNABINOIDS IN THE PEDIATRIC CENTRAL NERVOUS SYSTEM TUMOR POPULATION
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BACKGROUND: Cannabinoids, including cannabidiol (CBD) and tetrahydrocannabinol (THC), are a class of compounds found in marijuana. Numerous studies have examined the use of cannabinoids in cancer-related symptoms such as nausea, anorexia, and pain. Less is known about the use in the pediatric oncology population. METHODS: A prospective observational study has been ongoing since 2016 at Children’s Hospital Colorado. During oncology visits, patients were asked about the use of cannabis in their home, on quality of life of pediatric patients with central nervous system (CNS) tumors who are 2-18 years old. Laboratory assessments of T-cell activity and pharmacokinetics of CBD, THC, and associated metabolites are in process. Diaries with exploratory information on cannabis use are being collected. RESULTS: Thirty-three patients (14:19; male:female) have been enrolled with a median age of 6.4 years (range, 2.9–17.7 years). The most common tumor type in enrolled patients is embryonal tumors (13/33; 39%). Nine (27%) patients have low-grade glioma/gliosarcoma tumors, and eight (24%) had high-grade/diffuse glioma gliomas. The remaining patients had ependymoma or craniopharyngioma. The median time on cannabinoids is 9 months. Most (n=20) patients have used oral products with CBD and THC. The remaining 13 patients use CBD only. Medications used in conjunction with cannabis use are being collected. CONCLUSIONS: Families of children with various CNS tumors are pursuing cannabinoid therapy for both antitumor and supportive care purposes. Analysis of the impact of cannabinoids on patient quality of life is ongoing.

QOL-37. USE OF COMPUTERIZED NEUROPSYCHOLOGICAL MEASURES TO ASSESS COGNITIVE MORBIDITY IN CHILDREN UNDERGOING ACTIVE RADIATION THERAPY
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Cognitive late effects of brain tumors and related treatments are well-established; however, limited information regarding changes in cognition during radiation therapy (RT) is available. Recent advances in computerized neuropsychological assessments for monitoring of acute and late treatment effects have been developed, though the feasibility of using these tools in a population undergoing active RT has limited empirical evidence. This study investigated the performance of pediatric patients with brain tumors actively undergoing RT on the NIH Toolbox (N = 10; M age = 11.29 ± 3.35 years; 86% Caucasian; 86% female). Given significant individual variability, one-sample proportion tests were calculated to assess whether the proportion of patients with performances >1 standard deviation below the mean significantly differed from normative expectations. Of the 12 participants that were enrolled in the study, 10 completed the NIH Toolbox during active RT. Compared to normative expectations, a greater proportion of patients under active RT exhibited deficits on measures of processing speed, working memory, and response inhibition (p < .01). Differences between participants and normative expectations were not seen on measures of visual memory and vocabulary (p > .05). Seventy-seven percent of recruited participants completed computerized assessment during active RT, suggesting reasonable feasibility within the small cohort recruited. Consistent with the literature regarding late effects of RT, performance on computerized measures of cognitive functioning mediated by processing speed and aspects of executive functioning were lower for patients undergoing active RT. Further investigation will focus on clarifying the trajectory of deficits across treatment course and comparing computerized measures to traditional neuropsychological measures.

QOL-38. USE OF COMPUTERIZED NEUROPSYCHOLOGICAL MEASURES TO ASSESS COGNITIVE MORBIDITY IN SURVIVORS OF CHILDHOOD BRAIN TUMORS
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Treatment of central nervous system (CNS) tumors in pediatric populations is associated with significant cognitive morbidity. Documentation of neuropsychological deficits is vital to treatment and educational planning. We investigate the feasibility and utility of a computerized neuropsychological measure (NIH Toolbox Cognitive Battery) in differentiating individuals who received tumor treatment from healthy controls. Participants included pediatric CNS tumor survivors (N = 85; Mean Age = 13.47; SD = 4.76) at least 1-year post-completion of treatment and healthy controls (N = 20; Mean Age = 10.2; SD = 3.21) who completed the NIH Toolbox. Ninety-eight percent of the participants completed the computerized tasks. The overall logistical regression model, with NIH Toolbox tests as predictors, was statistically significant (R2 = 0.26; p = 0.001) and improved correct group classification from 81% to 82.9%. Picture Sequencing (β = -0.039; Wald = 6.942; p = 0.008) and Flanker (β = 0.083; Wald = 7.473; p = 0.006) were both statistically significant and the mean one unit increase in standard score on measures of working memory and inhibition, odds of membership in the treatment group decreased by 6.2% and 8.7%, respectively. Consistent with the literature, worse performance on computerized measures of cognitive functioning mediated by executive function was correlated with a history of brain tumor treatment. Further investigation will focus on comparing computerized neuropsychological tools to traditional comprehensive neuropsychological evaluations and clarifying the trajectory of these deficits across recovery.

QOL-40. THE IMPACT OF TASK COMPLEXITY ON INFORMATION PROCESSING SPEED AND NEURAL COMMUNICATION IN PAEDIATRIC BRAIN TUMOUR SURVIVORS
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Paediatric brain tumour survivors (PTS) experience slower information processing speed (IPS) that contributes to difficulty performing tasks of minimal (MC) and greater complexity (GC), and is related to academic underperformance. It is still unknown whether deficient IPS exists during increasing complexity. We aim to determine if PTS experience deficient IPS and neural communication relative to typically developing children (TDC) during an increasingly complex visual-motor reaction time (RT) task. During magnetoencephalography recording, participants (n=58, 12.69 ±3.42 years) pressed a button with their left or right thumb after an arrow pointing in the corresponding direction appeared on a screen. During two MC conditions, the arrow pointed in a single direction. During a GC condition, the arrow alternated direction randomly. Mean RT >3SD and signal artifacts were removed prior to analyses. The phase lag index (PLI) estimated neural communication between 90 cortical sources. Linear regression and Network Based Statistics assessed group differences in mean RT and the PLI. PTS demonstrated increased RT relative to TDC during the GC condition (p<0.04, M=434.300, M=326.000). Group differences in mean RT during MC conditions and the PLI during all conditions were not detected (p>0.05). These results suggest PTS experience slower IPS during GC. Reduced IPS is thought to contribute to difficulty recruiting cognitive resources to perform more complex tasks. Subtle deficits in neural communication may underlie slower IPS. The weighted PLI is superior to the PLI when estimating small differences in neural communication. We will now use the weighted PLI to assess task-related neural communication.

QOL-41. CARDIAC DYSFUNCTION IN MEDULLOBLASTOMA SURVIVORS TREATED WITH PHOTON IRRADIATION
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BACKGROUND: Medulloblastoma is an aggressive central nervous system (CNS) tumor that secures many in the pediatric population. Treat-