INNV-34. NEURO NARRATIVES: AN AUTOETHNOGRAPHIC ACCOUNT OF EXPERIENCING RESILIENCE WITH A BRAIN TUMOR
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The current research uses autoethnography as a method to share my experience as a brain tumor patient. In this piece, I reference poems from the deep brain tumors that spread throughout my surgery recovery, and following an innervation to demonstrate the thematic factors that allowed me to cope and experience positive emotions as an oncology patient. Results included the factors of trust in medical care, utilizing social support, finding meaning and purpose, and self-love and gratitude. The implications of these factors in relation to resilience are discussed and are better to serve other oncology and chronic illness patients are discussed.

INNV-35. A MULTI-DISCIPLINARY REVIEW OF NEWLY DIAGNOSED HIGH GRADE GLIOMA REFERRALS TO THERAPIES, AND IMPLEMENTATION OF A SCREENING TOOL TO IMPROVE ACCESS TO THERAPIES AT THE ROYAL MARSDEN HOSPITAL (R MH)
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Brain tumours make up 3% of all cancers. The disease and treatment have significant impact on function and quality of life (QoL). Early, out-patient rehabilitation can improve function. National Institute of Clinical Excellence (NICE) guidelines recommend effective acute and chronic care. However, pragmatic barriers to accessing these therapies limit patient enrolment into therapy studies. The pathways are complex, but unmet need is prevalent in this population. We recognised late referrals in our Trust and poor patient awareness of Therapies, resulting in reduced access to rehabilitation. METHOD: A retrospective notes review of all neuro-oncology patients (n=56) referred to R MH from July - December 2018 was undertaken to identify therapy needs and timeliness of referrals. A therapy screening tool was devised and piloted from July - December 2019. Additionally, an MDT questionnaire was circulated to gain feedback regarding this service. RESULTS: Retrospective review revealed that of those patients with identified therapy needs, 16% of physiotherapy (PT), 10% of Occupational Therapy (OT) and 9% of Speech and Language Therapy (SLT) were referred late. Additionally, referrals were not received for 40% of patients with OT needs, 32% for PT and 30% for SLT. Following implementation of the screening tool, referrals occurred earlier in the pathway, and rates increased by 60% in SLT, 59% in OT, and 25% in PT.

An MDT questionnaire revealed 100% consensus that screening was beneficial to patients and the MDT with improved access to therapies. CONCLUSION: Brain tumour patients require prompt therapy intervention to improve and maintain function and quality of life. We identified high levels of unmet need which was eliminated by a screening tool and subsequently increased referral rates. Patients and the MDT had improved awareness of the role of therapy. Improved organisational support and a pragmatic pathway is an effective method to improve patient outcome. From the effects of therapy intervention improving patient tolerance to oncological treatment. Therapists were able to identify and manage impairments earlier, improving QoL.

INNV-36. NON-INTRUSIVE, NON-INVASIVE AND PATIENT FRIENDLY FOCUSED ULTRASOUND DEVICE AS A DELIVERY METHOD FOR CNS TUMORS
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A major impediment to treatment of brain cancers is the inability to transport drugs across the blood-brain barrier (BBB). The development of an effective, targeted, and non-invasive method to penetrate the BBB to deliver cancer therapies is an unmet need in the treatment of brain cancers. Large molecular weight chemotherapeutic and immunotherapeutic drugs such as doxorubicin and others may be potentially effective against brain cancers if such drugs are sufficiently bioavailable in the brain. Focused ultrasound techniques can safely and transiently open the BBB but current techniques require invasive or expensive and high-touch procedures and are not optimal for wide adoption. To address this unmet need, we are developing an innovative technology to non-intrusively, non-invasively and transiently open the BBB in a specified location within the brain using the focused ultrasound (US) therapy platform. Our device consists of a proprietary US generator that is controlled by a highly portable system that has a small physical footprint, enabling the US generator to be easily transported and placed in different locations such as chemotherapy infusion centers. The US generator is cap-shaped device that is placed on a patient’s head that includes multiple sets of ultrasound transducers that are distributed within the cap according to the anatomy of the skull. With our proprietary technique, we calculate the position of the cap in relation to the internal anatomy in a real-time manner and in a non-intrusive and non-invasive manner. We have recently completed an extensive study that resulted in algorithms that can accurately guide the US to various targets within the brain across a spectrum of patients. We present here our preliminary results of a pilot preclinical study on a large animal demonstrating our ability to open the BBB non-invasively and deposit a drug proxy (gadolinium and Evans Blue).

INNV-37. XCSELOR: A REAL-TIME, REAL-WORLD LEARNING PLATFORM FOR PATIENTS WITH ADVANCED CANCER
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xCures operates a direct-to-patient, real-world evidence platform for decentralized clinical research. The platform leverages a nationwide observational research protocol (XCSELOR, NCT03793088) to aggregate, normalize, and analyze N-of-1 clinical outcomes to continuously learn from and inform clinical data elements. This real-world evidence research is extracted directly from medical documents such as clinic notes, and radiology, genomics, and pathology reports. The data elements are standardized to established biomarkers in both medical ontologies and stored in a validated and part 11 compliant electronic health record. Academicians view the data as a gold standard for clinical development that is continuously updated by contribution from key opinion leaders, tumor boards, clinical researchers, practicing oncologists, and published literature, and ranked using the real-world outcomes data from the registry. At the conference, we will present an overview of this real-time learning infrastructure and report on clinical case studies for pharma- and non-profit organizations including 75 virtual tumor boards and real-world evidence generated from over 150 patients with CNS cancers that we have helped in partnership with Cancer Commons and The Musella Foundation for Brain Tumor Research and Education. Outcomes analyses validated with FDA and clinical investigators. The registry leverages the experience of key opinion leaders, tumor boards, clinical researchers, practicing oncologists, and published literature, and ranked using the real-world outcomes data from the registry. At the conference, we will present an overview of this real-time learning infrastructure and report on clinical case studies for pharma- and non-profit organizations including 75 virtual tumor boards and real-world evidence generated from over 150 patients with CNS cancers that we have helped in partnership with Cancer Commons and The Musella Foundation for Brain Tumor Research and Education. Outcomes analyses validated with FDA and clinical investigators. The registry leverages the experience of key opinion leaders, tumor boards, clinical researchers, practicing oncologists, and published literature, and ranked using the real-world outcomes data from the registry. At the conference, we will present an overview of this real-time learning infrastructure and report on clinical case studies for pharma-

INNV-38. COVID-19 INDUCED TELEMEDICINE LESSONS FOR CLINICIANS CARING FOR PATIENTS WITH PRIMARY BRAIN TUMORS
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BACKGROUND: The COVID-19 pandemic triggered a rapid conversion from in-person to video-visits for new patient consultations and follow-up visits. Now with available vaccines and declining case rates efforts are underway to return to in-person visits as they provide more revenue and are viewed as best for patients and clinicians. This abstract reviews these assumptions. METHODS: Electronic medical records from seven full-time faculty neuro-oncologists at Johns Hopkins Hospitals were retrospectively reviewed from April 1/20 to 3/1/21 to examine the use of video-visits over time and their patient demographics. RESULTS: From 4/1/20 to 3/1/21, 279 new patients were seen (57% video-visits) with a median age of 52 years for both video and in-person visits. Patients came from 15 states for video visits and 11 states for in-person visits. Analyses also included 2284 follow-up visits (85% video-visits) with a median age of 47 yrs for video and 50 yrs for in-person visits. Patients came from 28 states for video and 14 for in-person visits. No show visits were more frequent for in-person visits. During early months of the pandemic, few patients were seen in the clinic. Therefore, video-visits rose sharply comprising 93% of follow-up visits in June 2020 and 62% of new patient consultations in September 2020. These rates have remained high (in March 2021, 72% of all follow-up visits and 59% of new patient consultations). CONCLUSIONS: Despite reductions in COVID-19 infection rates, our neuro-oncologists continue to favor video-visits for new
Abstracts

INNV-40. REAL WORLD INTEGRATION OF THE NEUROLOGIC ASSESSMENT IN NEURO-ONCOLOGY (NANO) SCALE IN CLINICAL PRACTICE IN PATIENTS WITH IDH-WT GBM
Mary Jane Lim-Fat1, Marie Allen2, Timothy Smith3, Gilbert Yousef3, Benjamin Anderson2, Olowatosin Akinotola4, Tamir Berger5, Joshua Bodian4, Annie Hsueh6, Elisa Aqualant7, Tracy Batchelor7, Rameen Beroukhim2, Ugonna Chukwuweke2, L. Nicolas Gonzalez Castro8, Eudócia Quant Lee9, J. Ricardo McFalone-Figueroa2, Lisa Doherty10, Janna Stefanski10, Christina Tuft11, Alexandra Torres12, Brian R Chen12, David Rarden12, and Lakshmi Nayak23. Sunnybrook Health Sciences Centre, Toronto, ON, Canada; 2Dana-Farber Cancer Institute, Boston, USA; 3Brigham and Women’s Hospital, Boston, USA; 4Harvard Medical School, Massachusetts General Hospital, Boston, USA; 5Center For Neuro-Oncology, Dana-Farber Cancer Institute, Boston, MA, USA

BACKGROUND: The neurologic assessment in neuro-oncology (NANO) scale was developed as a standardized neuro-neurologic function in patients with brain tumors and complement radiographic assessment in defining overall outcome. The scale has been incorporated in clinical trials. Early data is suggestive of feasibility and that NANO considers diverse outcomes in treatment decision making. We describe our experience in applying the NANO scale to drive clinical-decision making and the predictive value of the NANO scale to determine overall survival remains unclear in IDH-wt GBM.

METHODS: We report on an ongoing study using the NANO scale to evaluate functional status in patients with IDH-wt GBM treated at Dana-Farber Cancer Institute (DFCI). Patient demographics, tumor histology and molecular status, treatment history and progression dates are being captured. NANO score, as collected by a built-in scale in our institutional electronic medical record (EMR), functional status (Karnofsky performance status) and corticosteroid dose are collected at specified time points (prior to start of therapy, and during each subsequent MRI visit). Changes in the NANO score will be correlated to overall survival. Statistical analyses using descriptive data and general linear models will be performed using R (version 3.4.3).

RESULTS: Since June 2020, 50 patients have been enrolled in this study, including 42 (84%) with ≥2 follow up visits. Study accrual was initially impacted by the COVID-19 pandemic, but adaptation to a virtual platform for NANO allowed for improved recruitment and follow up of patients. Study results will be available for discussion at the 2021 SNO conference.

CONCLUSIONS: Evaluation of neurologic function by NANO is feasible in a virtual framework in a prospective study in patients with GBM, aided by integration of the scale in our institutional EMR. NANO is able to objectively track neurologic function throughout disease course in IDH-wt GBM.

INNV-41. MY STORI – A SYMPTOM TRACKING AND REPORTING INSTRUMENT MOBILE APPLICATION FOR BRAIN TUMOR PATIENTS
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INTRODUCTION: Managing symptom burden is an integral part of brain tumor patient care, but tools to facilitate tracking symptoms and self-management for this population are lacking. Reporting is often limited to self-report as part of clinical follow-up care, or episodic between visits if symptoms are severe. While general-purpose and cancer-specific mobile applications that track medical symptoms are becoming more prevalent, they may not cover the entire range of symptoms experienced by patients with brain tumors or allow tracking of self-management strategies.

METHODS: We developed an iOS operating system mobile application using Apple’s UIKit, Foundation, WebKit, and various frameworks. Core Data and iCloud were used to implement local and cloud-based data storage for personal use. Findings from our Outcomes Surveys informed selection of core symptoms to track. A multidisciplinary team of neuro-oncology scientists, providers, and communications specialists developed self-care content from evidence-based sources.

RESULTS: We developed My STORI, a free mobile application to capture the experiences of brain tumor patients. Patients and their family members can track daily symptoms and share their experiences and record any actions that were taken to mitigate them. Evidence-based self-care information on how to recognize, manage, and report symptoms is provided. Graphical summaries of how these symptoms evolve over time, and how they are impacted by clinical appointments, treatment, and self-care activities can be displayed and compiled into reports that can be shared with their care team, family, or health care record.

CONCLUSIONS: Mobile applications have the potential to promote self-care, facilitate symptom management, and enable intuitive, frequent, and convenient reporting of clinically relevant data to the health-care team. The My STORI application is an innovation in patient care guided by evidence-based research and can be used to track symptom management, promote self-care, and enhance communication to improve clinical care and research.

INNV-42. ACTIVE VS RECEPTIVE MUSIC LISTENING THERAPY IN BREAST CANCER PATIENTS USING ARMCAN
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Secondary brain tumors and neurocognitive damage from radiation or chemotherapy are often the commonest neuro-oncological problems in cancer. Breast Tumors are the most commonly diagnosed cancer in women, with approximately 2 million women diagnosed in 2018.1 The 10-year survival rate for women diagnosed with breast cancer is 78% (World Cancer Research Fund, 2018). Although the 10-year survival rate is high, women who undergo chemotherapy to treat breast cancer may experience significant symptoms.2 Chemo related dysfunction is known as “chemobrain” or “chemofog.” Chemobrain can result in difficulty with attention, daily activities of living, and memory. This impacts people’s livelihood and affects their general well-being. Current research on the effect of chemobrain in breast cancer survivors is minimal. However, this study aims to reduce the post-chemotherapy outcomes of chemobrain through the use of interactive versus receptive music. “Brain Fog” or chemobrain is the hallmark symptoms in the breast cancer population. It causes difficulty in people being able to even carry out activities of daily living. We have developed a prototype "ARMCan—a music software application to help breast cancer patients with "brain fog." We are conducting a pilot feasibility study to beta test this interactive application which will promote executive function recovery in breast cancer patients with chemobrain.

INNV-43. MORE THAN MEETS THE EYE: EMTR AN UNDER RECOGNISED ATYPICAL BRAINSTEM PRIMARY. A RARE BRAIN TUMOR CONSORTIUM (RBT) STUDY
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10% of all pediatric brain tumors arise in the brainstem. Amongst these gliomas are the most common while other entities are rare and infrequently described in the literature. In this study we investigated the prevalence of non-gliomatous tumors in the brainstem. Amongst the 1323 embryonal tumours received at the RBCT, we identified 17 cases of ETMRs (17/165) that presented as brainstem primaries. Previously grouped within CNS-PNETs, EMTR, is a new WHO diagnostic entity characterized by CIMP alterations. ETMR is a disease of infancy, the clinical spectrum of which is poorly understood. ETMR arises at multiple CNS locations including cerebrum being most common (60%), followed by cerebellum (18%) and midline structures (6%); notably 10% were brainstem primaries, mimicking DIPG radiologically. All patients presented with a short history of progressive neurological symptoms, with most common signs and symptoms of cranial neuropathies, long tract signs and gait disturbance. Median age at diagnosis was 27 months (range 16-75months) with a male to female ratio of 0.9:1. Predominantly localized (M0-94%, M2-3 -6%) majority of patients underwent upfront biopsy or partial resection (15/17/88%), while complete tumor resection was achieved in 2 cases. All patients received heterogeneous combination of chemotherapy and radiation without surgery. Majority of patients progressed rapidly with median time to progression of 4 months and overall survival of < 13 months. The only long-term surviving patient had complete resection dose intensified chemotherapy and radiation (OS 202months). Primary ETMRs in the brainstem are under recognised entities and carry a dismal prognosis. Although rapidly progressive, prompt recogni-