BACKGROUND: Integrated, multidisciplinary research collaborations have the potential to transform cancer research by bridging the gap between highly specialized basic research and clinical strategies to target human disease. Training programs that provide opportunities for exposure to this approach will help promote the translation of basic science discoveries into clinical applications. The Neuro-Oncology Branch Translational Research Immersion Program (NOB-TRIP) was designed to immerse students from diverse scientific and cultural backgrounds into an integrated clinically-centered neuro-oncology research platform. METHODS: Eligible students from three separate summer intern programming at the NIH and self-selected for a clinical or basic focus were studied. A trans-disciplinary team developed the NOB-TRIP as a 10-week program consisting of five structured areas of educational focus: didactic lectures; weekly seminars with the NOB Chief on research rigor and career planning; cross-focus observational experiences; integration of wellness; and mentoring in training and public speaking. A post NOB-TRIP survey measured the program’s impact. RESULTS/CONCLUSIONS: Twenty-nine interns (18 female; 11 male) participated in the NOB-TRIP. Education levels included high school (3), undergraduate college (17), post-baccalaureate (2), graduate college (3), medical college (3), and post-doctoral (1). Student evaluations were overwhelmingly positive, with two interns returning for a second internship. Students reported acquiring a greater appreciation for the collaborative science and teamwork in a clinically-focused research branch. Patient-caregiver interactions, professional relationships, and the skills required to navigate a difficult conversation were highlighted as invaluable real-world learning experiences. NOB-TRIP exemplifies the benefits of cross-disciplinary training to spark enthusiasm, confidence, and collaboration among students with diverse scientific interests. These interpersonal and professional skills can drive a dedication to scientific discovery and fuel interest in the challenging field of neuro-oncology.

INNV-41. MY STORI – A SYMPTOM TRACKING AND REPORTING INSTRUMENT MOBILE APPLICATION FOR CENTRAL NERVOUS SYSTEM CANCER PATIENTS
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INTRODUCTION: Managing symptom burden and its impact on the quality of life is an integral part of central nervous system (CNS) cancer patient care. However, keeping track of symptoms and their management is typically done through ad hoc means. Furthermore, reporting is often limited to completing survey instruments as part of the patient follow-up. While general purpose mobile applications are available, track symptom patterns and their impact on the patient’s life, they are not geared toward managing and recording the experience of patients with cancer. Cancer-specific apps are emerging but may not cover the entire range of symptoms in patients with CNS cancers. METHODS: We developed an iOS and Android mobile app named My STORI, to enable mobile data collection from patients with CNS cancers.RESULTS: My STORI is a mobile app for the iPhone and Android phones. It allows patients to record symptoms and their impact repeatedly and record any actions that were taken to mitigate them. Summaries of how these measures have evolved over time can be displayed in a series of plots and compiled into reports shareable with the care team. The app is based on research instruments that reflect the knowledge accumulated from years of clinical research in neuro-oncology. CONCLUSIONS: Mobile applications have the potential to promote self-care, facilitate symptom management, as well as facilitate intuitive, frequent, and convenient collection of invaluable clinical-outcome research data. The My STORI app is an innovation in patient care inspired and guided by years of research outcomes, and tells an important aspect of the story of brain and spine cancer patients.

INNV-42. COST-EFFECTIVENESS OF INTRAOPERATIVE MRI IN THE TREATMENT OF HIGH-GRADE GLIOMAS
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OBJECT: High-grade gliomas (HGGs) have poor survival and high treatment costs. Intraoperative MRI (iOMRI) improves gross-total resection (GTR) rates and prolongs progression-free survival (PFS) in HGGs, but questions regarding its cost-effectiveness persist. To date, no clinical decision analysis models assessing iOMRI’s impact exist. METHODS: An integrated 5-state microsimulation model was constructed to follow patients with HGG. Patients treated with iOMRI were compared to those without iOMRI from initial resection/debulking until death. Following surgery and treatment of complications, patients existed in one of 3 health states: progressive disease, or dead. Patients with recurrence were offered up to two repeat resections. PFS, health utility values, probabilities, and costs were obtained from randomized-controlled trials whenever possible. Otherwise, national databases, registries, and non-randomized trials were used. Uncertain parameters were assessed using deterministic and probabilistic sensitivity analyses. A healthcare perspective was taken for this analysis. A willingness to pay (WTP) threshold of $100,000/QALY gained was used to determine cost-effectivity. RESULTS: IOMRI yielded an incremental benefit of 0.18 QALYs (1.16 QALYs without iOMRI vs. 1.34 with) at an incremental cost of $13,447 ($15,000 without vs. $17,447 with) in microsimulation modeling, resulting in an incremental cost-effectiveness ratio (ICER) of $76,442 per QALY. Given our parameter distributions, probabilistic sensitivity analysis demonstrated an 85% chance of cost-effectiveness at a WTP threshold of $100,000/QALY. CONCLUSION: Intra-operative MRI is likely a cost-effective modality in the treatment of HGGs.

INNV-43. NUCLEIC ACID ADEQUACY FROM ARCHIVED FORMALIN-FIXED PARAFFIN EMBEDDED (FFPE) TUMOR TISSUE FOR NEXT-GENERATION SEQUENCING (NGS) IN NATIONAL CANCER INSTITUTE (NCI)- NATURAL HISTORY STUDY (NHS) OF PRIMARY CNS TUMOR
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BACKGROUND: A unified data collection system for interrogating the clinical trajectory of patients and their molecular pathology is of significant diagnostic, research, and therapeutic importance. The NCI-NHS follows primary CNS tumor patients throughout their disease. A targeted NGS panel was developed for clinical screening of mutations in 56 genes, 21 copy number variants, and 23 gene fusion pairs using the Ion Torrent platform. In total, 221 specimens were processed from 210 patients. Specimen ages as follows: < 5 years old, 69%; 5–9 years, 22%; ≥10 years, 9%. DNA quantity was sequenced as follows: < 100 ng, 94%; ≥100 ng, 6%. DNA quality was sequenced as follows: < 200 bp, 95%; ≥200 bp, 5%. DNA quantity and quality of the NGS samples obtained were influenced by tumor type, patient age, and source. Conclusions were highlighted as an invaluable real-world learning experience.

INNV-44. GRAM POSITIVE COLONIZATION OF THE OMMAYA RESERVOIR; TREATMENT RECOMMENDATIONS WITH CLINICAL EXAMPLES
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BACKGROUND: Infectious complications of Omaya reservoirs occur in 3–15% of patients and can lead to removal of the device and other complications. Removal of the device is suboptimal as intrathecal chemotherapy...