combined via a consensus protocol to integrate (a) genotypes concordant between pipelines and (b) high quality genotypes unique to one caller. For consensus calling, quality metrics such as "GQ" from GATK are used to establish additional genotype-specific filters on pipeline-unique variants. **Results:** Our pipeline generates fully QCed/consensus called genotypes in multiple formats, as well as extensive annotation of variants and genotypes both passing and failing the QC/consensus calling steps. The pipeline is currently production ready and available for download. **Conclusions:** Pipeline design and results of the implementation of the pipeline on both ADSP Discovery and Discovery-Extension datasets will be presented.

P3-082 COMBINING HIPPOCAMPAL VOLUME AND RATES OF HIPPOCAMPAL ATROPHY TO BETTER UNDERSTAND ALZHEIMER'S DISEASE PROGRESSION

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Background: As of 2014, clinical trials of Alzheimer's disease (AD) therapies had a failure rate of 99.6%. It is hypothesised that poor endpoint choice and/or poor choice of individuals for recruitment into the trials may be important contributing factors in these failures. As clinical trials begin to target younger populations in the pre-clinical stages of AD, improved predictive markers are required to help inform what sample of individuals are more likely to develop AD over the course of the study. We focused on hippocampal volume (HV) and assessed the added benefit of combining HVs and rates of hippocampal atrophy over time in relation to disease progression. **Methods:** Following the cross-validation of previously published estimates of the predictive value of HV, a series of combinations of HV metrics were assessed using generalised linear mixed models to account for the correlation between repeated measurements within individuals over time. Models were developed using extensive longitudinal data from the Alzheimer's Disease Neuroimaging Initiative (ADNI). The models were compared using the Deviance Information Criterion and the risk of progression associated with individual (and combinations of) HV metrics was quantified using odds ratios. The odds ratios were also converted to probabilities of transitioning to more severe states. **Results:** We generate a better understanding of, and an alternate way of considering, HV in relation to AD progression. Our model selection criteria indicated that a combination of HV and rate of hippocampal atrophy explained the most variation in disease progression. Also, the disease risk associated with HV differed significantly between diagnostic states whereas rate of hippocampal atrophy did not. **Conclusions:** HV and rate of hippocampal atrophy (but not the interaction between them) should be used in tandem when describing AD progression. The association between smaller HV and disease progression is stronger for individuals with mild cognitive impairment relative to normal controls. This differentiation is not significant for the effect of hippocampal atrophy, which was found to be constant across all stages of disease progression. Additionally, the distributions of transition probabilities derived from these models can be used within clinical trial simulations of potential AD therapies.

P3-083 OASIS-3: LONGITUDINAL NEUROIMAGING, CLINICAL, AND COGNITIVE DATASET FOR NORMAL AGING AND ALZHEIMER'S DISEASE

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Background: OASIS-3 is the latest release in the Open Access Series of Imaging Studies (OASIS) that aimed at making neuroimaging datasets freely available to the scientific community. By compiling and freely distributing this multi-modal dataset, we hope to facilitate future discoveries in basic and clinical neuroscience. Previously released data for OASIS-Cross-sectional (Marcus et al, 2007) and OASIS-Longitudinal (Marcus et al, 2010) have been utilized for hypothesis driven data analyses, development of neuroanatomical atlases, and development of segmentation algorithms. OASIS-3 includes: demographics, raw neuroimaging, post-processed neuroimaging files, clinical assessments, neuropsychological testing, and biomarkers. **Methods:** OASIS-3 is a retrospective compilation of data for 1098 participants that were collected across several ongoing projects through the Knight ADRC over the course of 30years. Participants include 609 cognitively normal adults and 489 individuals at various stages of cognitive decline ranging in age from 42-95yrs. All participants were assigned a new random identifier and all dates were removed and normalized to reflect days from entry into study. All raw neuroimaging scans were converted to standardized NIFTI file format using dcm2niix and assigned BIDS (brain imaging data standard; Gorgolewski et al., 2016) standard naming conventions to improve analysis methods. The dataset contains over 2000 MR sessions which include T1w, T2w, FLAIR, ASL, SWI, time of flight, resting-state BOLD, and DTI sequences. Many of the MR sessions are accompanied by volumetric segmentation files as a result of Freesurfer (Fischl, 2012) processing. PET imaging from 3 different tracers, PIB, AV45, and FDG, totaling over 1500 raw imaging scans and the accompanying post-processed files from the Pet Unified Pipeline (PUP) are also available in OASIS-3. The dataset includes 6534 longitudinal clinical assessments, 4089 UDS-2, and 3410 neuropsychological assessments. **Results:** The OASIS-3 dataset hosted by central.xnat.org provides an easily accessible platform for use in neuroimaging, clinical, and cognitive research on normal aging and cognitive decline. **Conclusions:** OASIS-3 will provide the community with open access to a significant database of neuroimaging and processed imaging data in participants with normal aging and Alzheimer's Disease across a broad demographic, cognitive, and genetic spectrum. All data is available via www.oasis-brains.og.