• Assessments
  - Diagnosis
    * Diagnostic Summary [ADNI1,GO,2]: Diagnosis by each visit code (DXSUM_PDXCONV_ADNIALL.csv)
  - Neuropsychological and Functional Tests
    * ADAS Sub-Scores and Total Scores[ADNI1]: ADAS-Cog total scores in ADNI1. TOTAL11 (11 items score) TOTALMOD (13 items score) (ADASSCORES.csv)
    * Alzheimer’s Disease Assessment Scale(ADAS) [ADNIGO,2]: ADAS-Cog total scores in ADNIGO2. TOTSCORE (11 items score) TOTAL13 (13 items score) (ADAS_ADNIGO2.csv)
    * Clinical Dementia Rating Scale(CDR)[ADNI1,GO,2]: 6 domains (CDMEMORY, CDORIENT, CDJUDGE, CDCOMMUN, CDHOME, and CDCARE) and global(CDGLOBAL) scores are available. (CDR.csv)
    * Everyday Cognition - Participant Self Report[ADNIGO,2]: Create each domain score by taking average (if at least half of the items are not missing for each domain). Total score use 39 items. (Note: VISSPAT5 is a duplicated field per DATADIC.csv) (ECOGPT.csv)
    * Functional Activities Questionnaires(FAQ)[ADNI1,GO,2]: FAQTOTAL score (FAQ.csv)
    * Mini-Mental State Examination(MMSE)[ADNI1,GO,2]: MMSCORE (MMSE.csv)
    * Neuropsychological Battery[ADNI1,GO,2]: Neurobattery scores (i.e. LIMM-TOTAL (immediate recall total score), AVTOT1-AVTOT5 (Rey Auditory Verbal Learning Test scores)) (NEUROBAT.csv)
• Biospecimen
  - Biospecimen Results (UPENN data comes with data dictionary and method paper)
    * ApoE-Results[ADNI1,GO,2]: It contains ApoE Genotyping results. (APOERES.csv)
    * UPENN-Biomarker Data[ADNI1]: ADNI1: baseline abeta, tau, ptau. (UPENNBIOMK.csv)
    * UPENN-Longitudinal Biomarker Data[ADNI1]: ADNI1: baseline & m12 abeta, tau. (UPENNBIOMK2.csv)
    * UPENN-Longitudinal Biomarker Data (3 yr)[ADNI1]: ADNI1: baseline, m12, m24& m36 abeta, tau, ptau. (UPENNBIOMK3.csv)
    * UPENN-Longitudinal Biomarker Data (4 yr)[ADNI1]: ADNI1: baseline, m12, m24, m36& m48 abeta, tau, ptau. (UPENNBIOMK4.csv)
    * UPENN-CSF Biomarkers[ADNIGO/2]: ADNIGO/2: new subject baseline abeta, tau, ptau. (UPENNBIOMK5.csv)
    * UPENN-Second batch analysis of CSF biomarkers: Longitudinal abeta, tau, ptau for 82 ADNI1 subjects, bl and m24 for 32 ADNIGO subjects, and baseline for 309 ADNI2 subjects (UPENNBIOMK6.csv)
    * UPENN-CSF Biomarkers Methods[ADNIGO/2](PDF): Method paper for UPENN biomarker data
    * CSF Multiplex Proteomics, Serum Autoantibody, Redox reactive autoantibodies data, etc. are also available. (with data dictionaries and method papers.)
    * Laboratory Data: Screening clinical lab results (i.e. urine, chemistry panel). Data contains some character coding (i.e. SCC09: No specimen received ), and they can be treated as missing data. (LABDATA.csv)
ADNI Commonly Used Tables

- Genetic
  - SNP genotype data are available in several zip files.

- Enrollment
  - Enrollment
    - ADNI2 Visit Codes Lookup[ADNI2]: VISCODE2 assignment for ADNI2. VISCODE2 can tell you the longitudinal progression (i.e. m12, m24) (ADNI2_VISITID.csv)
    - Arm[ADNI1,GO,2]: ADNI1:Randomized arm assignment. ADNI2: Screen- diagnosis (1:NL,2:MCI(LMCI in ADNI2),3:AD,10:EMCI,11:SMC) (ARM.csv)
    - Visits[ADNI1,GO,2]: Dictionary of 'VISCODE' (VISITS.csv)
    - Registry[ADNI1,GO,2]: Contains key variables such as EXAMDATE, whether visit was conducted, and participant status by each visit.(REGISTRY.csv)

- Imaging
  - MR Imaging Analysis (Each data comes with data dictionary and method paper)
    - Fox Lab BSI Measures[ADNI1/GO/2]: Brain and Ventricular Boundary Shift Integral in ADNI/GO/2. VBSI: ventricular BSI. DBCBBSI: Whole brain classic BSI. KMNDBCBBSI: Whole brain KN-BSI. HBSI_L, HBSI_R: Hippocampal BSI Right/Left. (FOXLABBSI.csv)
    - Mayo Task-Free fMRI Summary Metric of DMN ROIs[ADNI/GO/2]: fMRI summary in ADNI/GO/2. PDMNRV: Posterior default mode network(DMN) RV. DMNRV: DMN RV-ratio (MAYOADRIL_MRI_FMRI.csv)
    - Mayo TBM-Syn Based Scores[ADNI/GO/2]: longitudinal MRI measures in ADNI/GO/2. TBMSYNSCORE: mean over 31 ROIs. (MAYOADRIL_MRI_TBMSYN.csv)
    - MRI Infacts[ADNI1,GO,2]: longitudinal records of MRI detected strokes. STROKE_TYPE: thrombosis or hemorrhage. (MRI_INFARCTS.csv)
    - Stroke Summary Version 2[ADNI1]: Whole brain white matter hyperintensity in ADNI1. WHITMATHYP: white matter hyperintensity volume – whole brain (STROKESUM_V2.csv)
    - UA-MRI SPM VBM Analysis[ADNI1]: Using longitudinal voxel based morphometry (VBM) processing steps in ADNI1. Left hippocampal region = average(HIPPL AMTGD). RECNO: image sets used for analysis(UASMVMNB.csv)
    - UCD Total Cranial Vault Segmentation[ADNI1]: Total cranial volumes for 810 ADNI1 subjects. T2TCV: T2 total intracranial volume (TCV.csv)
    - UCL-Boundary Shift Integral Summaries[ADNI1]: Boundary Shift Integral in ADNI1. (BSI.csv)
    - UCLA DTI ROI Summary Measures[ADNI/GO/2]: Diffusion Tensor Imaging Summary in ADNI/GO/2, including FA and MD in a variety of regions. (DTIROID.csv)
    - UCLA Tensor Based Morphometry Version 2[ADNI1/GO/2]: Tensor-based morphometry in ADNI/GO/2. MEASURE_1: Numerical summary of cumulative temporal lobe atrophy; summaries are scaled by 1000 (e.g. 1000: no change, 1200: 20% increase, 800: 20% loss) (TBM.csv)
    - UCSD-Derived Volumes[ADNI1]: Volumetric and cortical thickness data for ADNI1. Several variables including LHIPPOC: left hippocampus RHIPPOC: right. VENTRICLES: ventricles. BRAIN: whole brain. (UCSDVOL.csv)
    - UCSF ASL Perfusion CBF by FreeSurfer ROI[ADNI/GO/2]: Cerebral blood flow (CBF) measures in ADNI/GO/2 for FreeSurfer ROIs. (UCSFASLFS.csv)
    - UCSF-Cross-Sectional FreeSurfer(FreeSurfer Version4.3): MRI measures (volumes and cortical thickness) for 1.5T MRI in ADNI1/GO/2. hippocampal volume=(ST29SV+ST88SV)/2. whole brain volume= sum of ST128SV ST17SV
ADNI Commonly Used Tables

ST18SV ST19SV ST20SV ST61SV ST16SV ST42SV ST29SV ST12SV ST11SV ST65SV ST76SV ST77SV ST78SV ST79SV ST120SV ST150SV ST53SV ST42SV ST29SV ST12SV ST101SV ST88SV ST71SV ST70SV ST124SV) (UCSFFSX.csv)

* UCSF-FreeSurfer(Version5.1) Cross-sectional [ADNIGO,2]: MRI measures (volumes and cortical thickness) for 3T MRI in ADNIGO/2. Some variable names are different from Version4.3. whole brain volume: replace ST19SV, ST20SV, ST78SV, SV79SV (version 4.3 variables) with ST147SV ST148SV ST150SV ST151SV (version 5.1 variables). (UCSFFSX51.csv)

* UCSF-Longitudinal FreeSurfer(FreeSurver Version 4.4): MRI measure using longitudinal scans in ADNI1. (UCSFFSL.csv)

* UCSF-Regional Atrophy Rates[ADNI1]: Summaries of regional atrophy rates in ADNI1. (UCSFATRPHY.csv)

– PET Imaging Analysis (Each data comes with data dictionary and method paper)

* Banner Alzheimer’s Institute PET NMRC Summaries: SPM summary from AV45 and FDG-PET in ADNI1/GO/2. HCI: hypometabolic convergence index for ADNI1 and some ADNIGO subjects. LONGHCI: Extension of HCI to longitudinal data. (BAIPETNMRC.csv)

* NYU FDG-PET-Hippocampus (pons normalized): FDG-PET: hippocampal glucose metabolism sampling in baseline and m24 of ADNI1. HIPRPONS: Right hip/pons normalized. HIPLPONS: Left hip/pons normalized. (NYUFDGHIP.csv)

* sPAS Avid ADNI Florbetapir summaries: Numeric summary of AV45 images using syngo.PET Amyloid Plaque (sPAP) and Avid Semi-Automated Method. AVID_STAGE.4 GLOBAL SUVR: Average six region SUVr normalized by entire cerebellum for florbetapir (AV-45) images calculated using AVID semi-automated quantification (cutoff: 1.10 (SUVr>1.10: florbetapir positive)). SPAP_GLOBAL SUVR: Average six region SUVr normalized by entire cerebellum for florbetapir (AV-45) images calculated using sPAP software (cutoff: 1.1186). (SPAP_AVID_FLORBETAPIR.csv)

* UC Berkeley - AV45 Analysis[ADNIGO,2]: AV45 PET measures in ADNIGO/2. SUMMARYSUVR_WHOLECEREBNORM: Summary variable (cutoff: 1.11). (UCBERKELEYAV45.csv)

* UC Berkeley - FDG Analysis[ADNI1/GO/2]: FDG PET measures in ADNI1/GO/2. Each observation has five regions of measures. (5 rows) To create summary variable: take average of the variable MEAN of 5 regions: L+R Temporal, L+R Angular, Post Cingulate. (UCBERKELEYFDG.csv)

* UPitt-PIB PET Analysis[ADNII1]: Numeric summary of PIB PET in 14 regions (all relative to cerebellum = 1). To create summary variable: take average of 4 regions (ACG, FRC, PAR, PRC) (PIBPETSUVR.csv)

* UU-PET Analysis[ADNI1]: Derived from Neurostat SSP analysis from PIB, FDG, AV45 PET in ADNI1/GO/2. SUMZ2:sum of pixel Z-scores greater than or equal to 2 standard deviations. SUMZ3:sum of pixel Z-scores greater than or equal to 3 standard deviations. PETTYPE: FDG, PIB or AV45. VISCODE/VISCODE2 may be missing in the data. (UUCACIR.csv)
• Study Info
  – Data & Database
    * ADNI 1.5T MRI Standardized Lists, ADNI 3T MRI Standardized Lists: Standardized analysis sets of volumetric scans from ADNI1. (ADNI_1.5T_MRI_Standardized_Lists.zip, ADNI_3T_MRI_Standardized_Lists.zip)
    * Data dictionary[ADNI1,GO,2]: Data dictionary for most clinical data. (DATADIC.csv)
    * Key ADNI tables merged into one table: It contains some of the key variables in one table. (ADNIMERGE.csv)
    * Merged ADNI1/GO/2 Packages: ADNI Merge packages for R, SAS, SPSS, and Stata.

• Subject Characteristics
  – Subject Demographics
    * Family History Questionnaire: Information of parents and if they have siblings. yes=1/no=0/don’t know=2 if their mother or father have dementia or having AD. (FHQ.csv)
    * Family History Questionnaire Subtable: Information of siblings (if they have siblings in FHQ.csv). yes=1/no=0/don’t know=2 if they have dementia or having AD (one row per each sibling). (RECFHQ.csv)
    * Subject Demographics[ADNI1,GO,2]: Demographic information at screening. (PTDEMOG.csv)
More about data

• Data Organization
  
  – Data within a file are organized with each visit in a separate row (the 'long' format of data rather than the 'wide' format)
  
  – RID identifies rows belonging to the same individual.

• Notes about data
  
  – Missing data codes: Most use '-4' as missing, although a few will say '-1'. Check the data dictionary.
  
  – Common variables for linking files
    
    * RID (patientID)
    * VISCODE or VISCODE2 (visit code: sc, bl, m06, m12, etc.)
    * EXAMDATE (date of assessment)
  
  – VISCODE='f' means the subject failed screening (ADNI1)
  
  – 'Baseline diagnosis' - actually two different ones
    
    * Diagnosis at the screen visit
      
      - When randomization is assigned
      - Available in the arm table
    
    * Diagnosis at baseline visit
      
      - Based on additional information than the diagnosis at randomization
      - Available in the diagnosis summary table

• About EXAMDATE in Clinical data
  
  – Clinical data in ADNIGO/2 do not include ‘EXAMDATE’ (the date of the exam).

  – The variable 'USERDATE' is the data entry date, and may be very different from EXAMDATE.

  – Use the variable 'EXAMDATE' in 'REGISTRY' table as date of exam for all clinical data