**Supplemental Fig. 1:** LONI pipeline for brain parcellation in T1-space.The subject‘s T1WI data were reoriented to bring it to gross alignment with the reference volume (T1 atlas data), followed by bias field corrections and automated skull-stripping (in SSMA module) using the atlas data as the reference. The FLIRT module was then used to estimate an initial 12-parameter affine transformation matrix and co-align the skull-stripped T1 volume to the reference volume before whole brain parcellation (into 83 anatomic regions) in the T1-space which used symmetric normalization (SyN) and labeled atlas model data. Finally, each subject’s parsed T1 data was brought back to its initial orientation using an inverse affine transform and reorientation process and saved for further analysis. Intermediate results were also saved for cross verification.

**Supplemental Fig. 2**.LONI pipeline for brain parcellation in DTI-space. The subject’s low resolution DTI-b0 data were aligned with their own high resolution T1WI data to estimate the associated image transformation matrix (via the top FLIRT module). That transformation matrix was then utilized to transform the T1-space anatomy parsed volume of the same subject to translate the 83-anatomic information to the subject’s DTI-space (via the bottom FLIRT module).