

ADNI Biostatistics Group
Minutes, 1 September 2009

Present on call: Laurel Beckett, Hao Zhang, Mike Donohue, Fred Immerman, Mike Weiner, Steve Kaplita, Bongin Yoo, David Shera, Viswanath Devanarayanf, Niclas Sjogren, Jian Han.

Danielle and Laurel reported that the labs were able to submit all the data by July, though there were some delays in uploading full versions. Mike Donohue now has all data uploaded and correct on LONI. Biomarker data are same as about April. Holly suggested in April that additional biomarkers might be uploaded in July, according to Danielle; so far this is not available.

The UC Davis group has sent out standard descriptive summaries of a large number (but not all) biomarker, imaging and cognitive variables, to the labs and to the executive committee. We have not yet run comparative studies but Danielle will restrict to common dataset and do that. She will have those by next week, separately for PET comparisons and MRI comparisons.

A question was raised about the difference between the two freesurfer versions of each region, for example hippocampal-l and hippocampal-x. Danielle explained that freesurfer calculates volumes using two different algorithms; the one for longitudinal data uses the whole trajectory to calculate each point, while the one for a single point such as baseline just uses that point. Thus if you are doing a longitudinal analysis you should use the longitudinal version, but if you are putting in a baseline value as a predictor, don't use that, use the baseline one as you would not have later version.

We didn't include P-Tau in our analyses because Les and John have not finished the longitudinal data and have not yet uploaded it. There were problems with the assay. Mike D has heard from Les that they are supposed to send in P-Tau data "soon".

Several people asked if there could be automatic notification if there is a major update to the database. This is complicated because there are lots of smaller updates all the time. Mike D will work to get major update notices out.

One person questioned why we have chosen to use hippocampal average volume. Mike W explained that this is an ad hoc definition for this project. No one has been able to show laterality, so they elected to provide the total. Right and left are uploaded to LONI though, as well as the total, so individuals can do whatever they want.

Laurel and Danielle filled the group in on progress on regression analyses. We have completed most of the univariate runs and are working on multivariate. We discussed some problem outcomes that don't look like linear mixed models work well (CDR, MMSE, a couple of the PET variables.)

Mike and Anthony are working on the survival analysis (time to conversion from MCI to AD) and will keep us updated as those analyses come to fruition.

The next call will be October 6 at 10 AM Pacific time.