ADNI Biostat Conference Call
14 August 2007

Present: Danielle Harvey, Qian Weng, John Kornak, Brandon Whitcher, Monica Chu

Danielle filled in for Laurel on today's call. She updated the group on the status of the MRI processing. Nick Fox and his lab are generating BSI data and hope to have 200-300 subjects done by the end of September. Paul Thompson has analyzed baseline data from a set of 120 subjects using TBM (40 in each diagnostic group). He will be submitting about 10 lobar measures per brain to ADCS and plans to submit at least some of the data within the next month. Norbert Schuff has processed some of the hippocampal volumes, which have been submitted to ADCS (ADCS will provide LONI with the link to these data shortly so that they will be accessible through LONI). Anders' group hopes to have all of the baseline data analyzed by the end of September. Danielle has asked all of the MRI groups to submit some data to ADCS in the next month so that that Biostat Core can start working with the data, getting familiar with the variables, and work out any kinks in the download process in preparation for the preliminary analyses to be done during October. The Biostat Core will use all data available in the ADCS database as of October 5, 2007 for the preliminary analyses, so all MRI labs have been instructed to send forward any data they have by then.

There will be an in-person meeting in San Diego on November 2, attended by at least one member of each of the processing labs for both PET and MRI as well as members of the Biostat Core. The plan for the meeting is to have presentations from each group about analyses done to date. Analyses will focus on the data that have been generated as of October 5. We will focus on longitudinal change, since all groups have been sent a priority list of subjects with the highest priority set to those with the baseline, six month, and 12 month assessments. However, not all groups will be looking at longitudinal data, so we will also do some cross-sectional analyses. One goal for the Biostat Core is to present a preliminary comparison of the different methods in terms of estimated change and variability in change. We may investigate correlations with clinical measures if we have time. Comparisons between numerical summary data and voxel-based analyses will be more qualitative at the Nov 2 meeting, although we will discuss at that meeting ways to best compare across methodologies for the final analyses of all baseline, 6 month, and 12 month data (to be done by March, 2008).

John updated the group on the voxel-based analysis plans. A major discussion point is the best measure to use from the voxel-based methods (integrated change or peak change in a region, determining which measure is the most sensitive to differences due to presence of disease). That is an open question and will likely be discussed in November at the meeting. Another focus has been on how to compare VBM to TBM and how to compare anatomical changes with the results from PET. They are also discussing more technical issues, including the template to be used. Right now, groups have decided to determine their results using the most optimal template for their method. Results will then be normalized to a common template such as the MNI Colin Holmes brain. This will be further discussed at the Nov. 2 meeting. Another issue is that VBM is not funded for longitudinal change and TBM is more suited to longitudinal change (although Paul has been doing some cross-sectional analyses using TBM).

Brandon will have GSK send Laurel an email about who is interested in a phone training session on how to use the data. He said we should send out a follow-up email to all industry folks to get a list of who is interested, since he is not really in touch with the other companies.

Brandon also asked about batch download of images from LONI (whether there is a way to say "select all images" rather than having to mark each scan individually before downloading). Danielle will look into it and send him an email.

Monica said that ADCS has received some hippocampal volumes and that they are expecting more data from all of the different labs soon. ADCS is still waiting for information from Anders about the data upload process for his data.

Danielle is also putting together a few documents to be posted on LONI about how to access the clinical data, how to read them into common statistical packages (SAS, R, Stata), and how to merge data tables. She will also include some notes on missing values, repeated observations, and other issues that she has observed in using the data thus far.

Danielle, members of LONI, and members of ADCS will likely have a call soon to discuss how to make the clinical database accessible through LONI more user-friendly. Right now, all of the data are accessible, but they come as a "data dump" of about 50 files. A lot of questions have been coming in about where to find certain information, what the variable is called, which tables they need to access, etc. It would be useful to be able to request certain variables and possibly do some of the merging directly through LONI before downloading a file for use in analyses (as had been set-up by ADCS for the Prep Phase).

Next call: August 28, 2007