

ADNI Biostat conference call
15 August 2006

Present on call: Danielle Harvey, John Kornak, Monica Chu, Rob Croop, Brandon Whitcher, Mike Weiner, Bill Billing

Monica reported that Sarah Walter is back at work, but has a standing meeting at 10am on Tuesdays, so Monica will be sitting in on the calls. She will report and issues back to Sarah and get back to us with feedback if needed.

Danielle summarized the discussions on the last PET call. There was some resistance from the PET core to the idea of k-cross validation. The concerns were mainly due to computation time and the additional complexity of the analyses (and how that would be described in any manuscripts that come out of the project.) There was also concern that for the head-to-head comparisons between PET and MR, the same approach should be used (whether it is the k-cross validation or the split sample approach). None of the big proponents for k-cross validation were on the PET call, so they were leaning more towards the idea of just using a split sample approach.

John wrote up a document that summarized some plans for partitioning the sample. The plans describe a way in which both a split sample and k-sample split could be used. Specific details of how to set this up still need to be worked out, although discussion on the MR call mentioned stratifying by age and diagnosis and possibly gender. The PET folks will be invited to attend the next MR call, which will be held on Aug 25th so that we can have a discussion with members of the MR, PET, and biostat cores all present and hopefully come up with some consensus on methods for cross-validation.

Mike reemphasized the idea that the FDA would not be supportive of a split sample approach for a clinical trial. He asked for the industry perspective and Rob Croop agreed with him. However, Rob said that if we could use this approach to identify and strongly validate regions that are sensitive to change, that would be useful. He said that industry was looking to us to find the best measures to use in clinical trials.

Mike recommended that in the next 3-5 weeks, we should come up with a document that details the analytic plan for ADNI. This document would include information on the numerical summaries analyses, the voxel-based analyses, ideas for cross-validation and how to deal with multiple comparisons. This document would then be circulated for feedback and would be presented at the ISAB meeting in October to get additional feedback from industry, the Steering Committee, and the outside Advisory board. Danielle and John will work on putting this document together.

Enrollment is still going well. The target date for completion of the baseline assessments is next Spring. Time 2 assessments would probably be complete a year after that, so we are still a ways off from having large amounts of longitudinal data. On the MR call, the preprocessing pipeline has hit a snag, which they are trying to fix, so getting pre-processed images out to the labs is still at least a month away.

Danielle has circulated an email to the different labs to identify the numerical summaries that will be generated. She is waiting to hear back from them so that LONI and ADCS can move forward on generating the necessary fields into the database.

Mike also brought up the issue of the validation analyses that link the imaging measures to the clinical measures. He recommended that we get the clinical core, MR core, and PET core to identify their primary measures and then we can come up with the primary hypotheses that will link those measures (like hippocampal volume with memory, frontal lobe with executive function, ADLs with a more global measure of volume). Danielle tried to get this information from the different groups a few months ago, but has not gotten much response. She will resend out an email.

Mike will also send an email to Bill Jagust and Eric Reiman to get a better sense of ROIs that the PET groups will use (Bill said he will be doing ROI analyses, but we are still unclear as to which regions he will be using.) Danielle is also talking to Eric this afternoon about some of the voxel-based issues.

Next call: Aug 29, 10am Pacific Time.