ADNI Biostatistics Conference Call
Minutes, 16 November 2004 Call

Present for call: , Danielle Harvey, John Kornak, Ron Thomas, Mike Weiner.

Prior to call, minutes from last meeting had been circulated, and Danielle had sent out a draft summary of the data to be collected in the preliminary phase.

A brief overview of the preliminary phase design: There are two principal types of comparisons in this preliminary phase. One set compares scans within a person (two different imaging approaches on the same day, which will be done both for controls and for AD patients, and short-term variability with imaging sessions two weeks apart in the control patients only.) In this set of comparisons, the ideal is zero difference. A second set of comparisons will look at control vs. AD and examine effect size. We expect to see a difference here.

We discussed with Ron how the summary measures, e.g. hippocampal volume for each phase, will be handled. Exact number of summary measures per person is not completely obvious yet but it looks like under 100 per patient. Danielle says that there will be 3-4 quantitative summaries. Some labs are doing just the controls (ie just longitudinal), others will be looking at summaries of both. Ron stated this is not a problem to be handled at UCSD.

The simplest way to handle data is probably with a web-based form. This would provide a consistent interface and check the data as it is entered. Sites and labs that generate the summary numbers could enter them directly. Ron says such a form is routine for their staff to develop.

Ron asked whether an ID scheme has been developed yet. Mike believes not. Ron and Art are asked to come up with an ID scheme. It is somewhat complicated as each image needs to have both a Subject ID and a "design" ID within subject, and there will be different numbers of images per subject, as explained in Danielle's summary. Moreover, the labs doing SPM and other image processing modalities will also generate additional images. These images could be within-subject (e.g. difference between time 1 and time 2) or across subject (e.g. control vs. AD). The ID scheme does not have to be the same for the preparatory phase and the execution phase.

Ron stated that Leon has not yet made this data structure a priority, but that as soon as the ID scheme is final and Leon authorizes this use of time, he will get staff to set up the data entry form. This should not take too long.

Thus a number one priority that is critical for all steps – data uploaded to LONI, construction of web-based entry form, data collection at sites – is to have a system for patient ID and image ID within patient.

Quality control will use the generic approaches already in use at UCSD. We will also ask Cliff to send an e-mail to the people who will produce the numerical data and ask them to provide us with information on potential range of values, missing data codes, and so on.

We talked about the voxel-based approaches. We concluded that it is unlikely we will be able to develop and do any novel analysis during the preparatory phase, as we will not get this data set until very late, perhaps with 3 weeks left. We will find out what standard summaries the voxel-based summary folks do routinely, for example some kind of integrated difference or maximal difference summary. We can do this to help with decision making on preliminary phase data, but then go on and examine more detailed summaries for any publication of our findings on the experimental design.

Action items:

1. Most urgent: Ron to go over Danielle's document and to sort out with Art how the ID system will work.

2. Danielle and John (and Laurel?) to talk with the imaging folks about what summaries they do routinely, e.g. total or peak difference. Organize questions and list of who is to be called.

3. Danielle to update the draft summary of the preparatory phase design, including page numbers and adding information on who does which task, and how many summary images will be generated.

4. Laurel to summarize meeting and circulate minutes.