

ADNI Biostatistics Core
Conference call, 15 March 2005

Present on call: Danielle Harvey, John Kornak, Devon Gessert, Mike Biglan, Sarah Walter, Youyan Xu.

Absent on call: Laurel Beckett

John updated us on the last conference call with the voxel-based group. Discussion focused on problems with the data from the Prep Phase that became apparent through an initial look at the scans. Colin Studholme had generated some difference maps after registration and found that there are issues with orientation of the images, bias effects, Gibbs ringing, and one case where a supposed normal subject had significant tissue loss (although the image did not look like an Alzheimer brain). In terms of orientation, some images are coming in upside down or sideways and it is not clear if they are right-left or left-right oriented. This feedback has gone back to Cliff Jack and a marker will now be placed on the right side of the brain for all future scans so that the right side can be identified. We are still waiting to hear from Anders Dale as to who will take responsibility to identify the orientation of scans that have already been acquired without the marker. John also mentioned that the group is starting to look ahead to the Execution Phase, because it is looking more and more like the results of the mapping techniques for the Prep Phase will be visually, as opposed to formally, compared. The group is discussing ways in which to make the processing as easy and similar as possible for the Execution Phase so that the various techniques can be compared. They are trying to come up with a good brain mask that everyone will use, which is critical for answering questions about integrated brain change. Nick Fox's mask requires a lot of manual adjustments, so one of the standard masks will likely be used instead, although the exact one is still under discussion. Also for registration, they will likely use a template generated by Gene Alexander, since registration is more of an issue for cross-sectional analyses. An issue still exists as to how many subjects to use to generate such a template (so at what point during the Execution Phase will Gene no longer update the template.) The voxel-based group has another conference call in 2 weeks to discuss progress, problems, and more planning for the Execution Phase.

Danielle said that she has not made any progress on updating the summary document for the Prep Phase or writing the document for the Execution Phase. She will work on it this week and send it out to everyone so people can begin to think about desired reports for the Execution Phase. She also reported that UCLA is now doing some scans for the Prep Phase (a 1.5 Siemens Avanto); the goal is to get 5 controls and 5 AD subjects, although it may end up being only controls. She thinks UCLA is still going through the IRB process, so scanning has not begun. Scans are expected to be completed by the end of March or early April for the Prep Phase and we hope to have a more complete data set by mid April to do the analyses of the numerical summaries.

The ADCS group updated us on the database. There are 78 patients enrolled so far, with 68 having complete clinical data. Each of the numerical summaries labs have requested

being able to batch upload their data into the database, so ADCS is working with these labs to determine the structure of the forms that will be coming to them and writing the scripts to incorporate the data into the ADCS database. They have information from Norbert and are finalizing the scripts this week. They will let us know once the data is coming in and will generate reports for tracking. They will also let us know about access to the data. At this point, it is not clear if it will be coming to us on cds or if we will be able to access it over the website...their hope is that it will be more automatic like the website. They are still gathering information on the file structure from Nick Fox and Anders Dale.

Mike Biglan reported that there are still discussions with Karen and Scott at LONI to come up with ways of linking the databases. Various proposals have been discussed and they are still working through some fundamental issues related to transferring of data between two sites.

John brought up the idea that each of the labs should be generating a spreadsheet of difficulties that they have had with particular scans, subjects, etc, which is something that the voxel-based group has decided to do. That way, labs can share this information with the other labs to see if everyone is having similar problems and those problems can be sent forward to Cliff and the QC team at Mayo. Sarah reported that Cliff is constantly modifying the QC protocol based on feedback that he receives from everyone. So, the hope is that by the Execution Phase, we will have already run into all of the major problems that may come up and have determined ways to address them.

Next conference call: Tuesday, March 29, 10am PST.