ADNI Biostatistics working group call
Minutes for 6 April 2010

On call: Laurel Beckett, Danielle Harvey, Hao Zhang, David Shera, Niclas Sjogren, David Verbel, Tom Kelleher, Bongin Yoo, John Kornak, Kisook Yoo.

Laurel reported that she and Danielle will be at the meetings in Toronto. Laurel will miss the ISAB meeting Sunday afternoon but will be there for External Advisory Board and will present at the Steering Committee Monday morning. The presentation will basically be an update from a year ago, and very similar to the talk in Sendai, with added comparative data, but little new data has been posted since Fall.

The ADNI-2 study section met last week. The proposal seems to have been scored in a "grey zone" where funding is uncertain. We will have a chance to respond to the reviews, but if that is not successful, we plan to resubmit in July.

ADNI-GO is underway, with sites being qualified and patients recruited now.

Danielle reported that the imaging groups are trying to figure out how to deal with changes from ADNI-1 to ADNI-GO. As they requalify sites, they are finding that, for example, some scanners are no longer available, and there are questions of how to shift subjects who are continuing. Some new things will be going on: for MRI, there will be only 3T, and they will be adding amyloid imaging at all sites.

Implications for statistical analysis: If they are using same vendor same platform, they will continue to treat as standard longitudinal series. For individual switching vendors altogether or having a massive upgrade such as coil type, the individuals will switch over to 3T and we will consider this as a somewhat new series (1.5 T during the ADNI-1, 3T during ADNI-GO). We will need to look at this carefully. The MRI core doesn't think this is going to be a systematic shift that we can correct. You have obvious changes that can be seen in the image, but not necessarily a consistent shift in volume measurements. We may want to plan for a statistics methods paper on modeling longitudinal change in the presence of such shifts.

Bongin asked about missing data and how we are handling it. The biggest problem is the structural missingness is the worst problem – only about half got CSF, and half got PET, and they were different halves. Thus if you try to look at all the biomarkers, you have only 25% of the data. There was not a lot of drop-out or missing visits. We have been treating them as missing at random. Bongin is specifically interested in ADL's but there are missing items. We don't think anyone has looked at it extensively; we can ask Mike Donohue and Anthony Gamst. That would be a good area for us to pursue next.

Another question is whether we are looking at longitudinal markers as covariates, not just baseline as predictors; the answer is yes, that's part of the next step.

The next call is Tuesday, May 4, at 10 AM Pacific time.