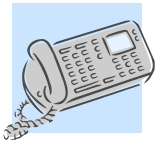
NCRAD

The National Cell Repository for Alzheimer's Disease

NCRAD Quarterly Newsletter

May 2013

Conference Calls!



Thank you to everyone who participated in our annual NCRAD-ADC conference calls this year. We have talked with the Center Director and/or Clinical Core Director at each ADC. We appreciate having the opportunity to speak with each Center and learn about ways we can help facilitate sample collection and transfer to our central repository. We hope you find the calls informative and please don't hesitate to contact us if you have any further questions or suggestions.

ADSP-Alzheimer's Disease Sequencing Project

In February of 2012, President Obama announced a new Presidential Initiative focusing additional NIH resources on the important problem of Alzheimer's disease. He specifically directed that 25 million dollars should be spent on the sequencing of DNA.

This large-scale sequencing project brings together multiple groups collecting AD cases and/or controls. All sequencing is being done at three Large Scale Sequencing Centers (LSSCs): The Human Genome Sequencing Center at Baylor College of Medicine, The Broad Institute, and The Genome Institute at Washington University. Coordination of this project has been ongoing for over a year and NCRAD has multiple roles as part of this project including organizing, plating and shipping large numbers of samples.

The first set of samples to be sequenced consisted of families with multiple individuals affected with Alzheimer's disease. 582 individuals from 111 families were sent to the three LSSCs for whole genome sequencing (WGS). All samples were shipped in early April and sequencing will begin by late April.

The next phase of the ADSP will focus on 5,000 AD cases and 5,000 controls. In addition, 1,000 AD cases from multiplex AD families will also be included in this phase of the project. These 11,000 samples will undergo whole exome sequencing (WES). Samples for this case/control project will be sent to the LSSCs in waves beginning in May. As part of this WES project, several thousand DNAs from the ADCs will be included. Please note that NCRAD will be contacting the ADCs if additional DNA samples are needed. Some of the DNA samples previously shipped to NCRAD for GWAS and APOE are depleted or have insufficient quantity remaining. We greatly appreciate your rapid response to these requests as we are working on a very tight schedule.

NCRAD Blood Sample Initiative

A major effort of both the Alzheimer Disease Genetics Consortium (ADGC) and NCRAD has been to create a centralized sample resource that accompanies the strong centralized data management resource at NACC. This has long been a goal of both groups and reflects the unusual situation of AD research, which has never required ADCs to bank samples in a central repository.

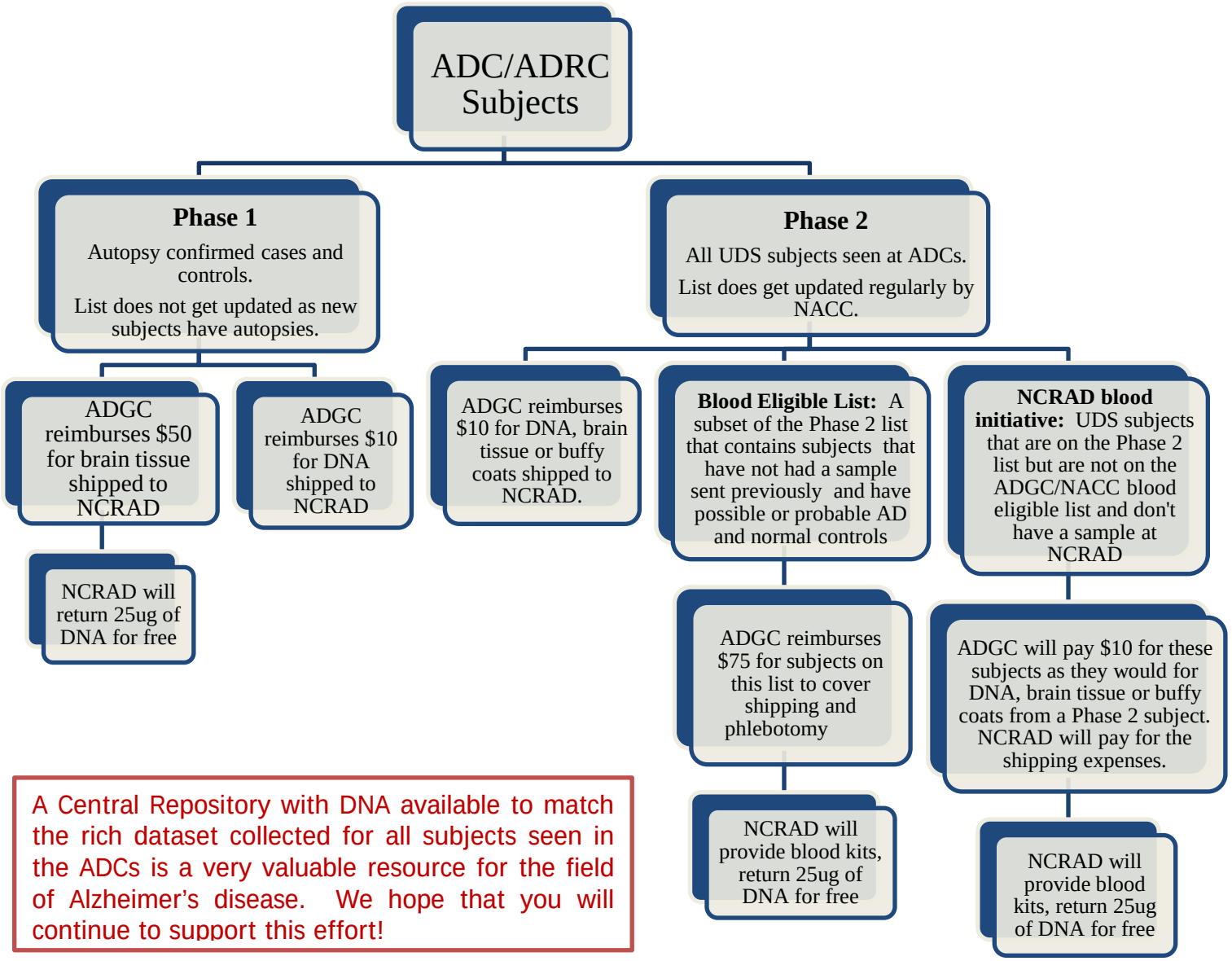
As part of this effort, the ADGC has offered reimbursement of $75 per blood sample submitted to NCRAD for subjects that have a UDS and are diagnosed with possible or probable AD or are a normal control. This reimbursement is intended to cover phlebotomy and shipping expenses. Subjects eligible for this reimbursement are listed on the NACC web-site: https://www.alz.washington.edu/WEB/adc-home.html. Please note that these 'blood eligible' subjects are a subset of those on the ADGC Phase 2 list and this list is updated regularly. The ADGC Phase 2 list includes all subjects with a UDS.

Please contact us with any questions or concerns about NCRAD at 800-526-2839/317-274-7360, by email at kelfaber@iu.edu or visit our web-site: www.ncrad.org Thanks!!

In addition, NCRAD will accept a blood sample on all subjects on the Phase 2 list. If blood is submitted to NCRAD for non-ADGC blood eligible subjects, NCRAD will pay for the shipping.

As summarized in the chart below, NCRAD hopes to receive a sample from any subject with a UDS. Please call us if you would like to review these initiatives and develop approaches at your center that will make this simpler.

When blood samples are shipped to NCRAD as part of any NACC list, NCRAD will return 25ug of DNA back to the site free of charge. All APOE data and GWAS data generated on these subjects will be returned to the site as well. Completed APOE and GWAS data can be found on the NACC web-site as well. If you need access to this web-site, please contact NACC at: naccmail@uw.edu. Please note that APOE will be found in two separate files, one file that contains APOE done in conjunction with a GWAS and a separate file that provides the APOE result for samples at NCRAD that have not undergone GWAS.



A Central Repository with DNA available to match the rich dataset collected for all subjects seen in the ADCs is a very valuable resource for the field of Alzheimer's disease. We hope that you will continue to support this effort!

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NIAGADS

The National Institute on Aging Genetics of Alzheimer's Disease Data Storage Site

A New Resource in AD Research - NIAGADS

The NIA Genetics of Alzheimer's Disease Data Storage Site (NIAGADS—http://www.niagads.org) is a national repository that facilitates access to genetic, genomic, and related data to qualified investigators for the study of Alzheimer's disease (AD). It is funded by the National Institute on Aging (NIA) under a cooperative agreement (U24 AG0416890). NIAGADS's mission is to enable rapid data sharing and speedy identification of new pathways for therapeutic approaches and prevention of the disease. All genetic and related data derived from NIA-funded studies for late-onset AD (LOAD) are deposited at NIAGADS, another NIA-approved site, or both. NIAGADS makes genetic, genomic, and phenotypic data relevant to genetic analysis such as clinical and neuropathology data elements available to qualified investigators for secondary analysis. In turn, secondary analysis data are provided back to NIAGADS.

What Data is Available at NIAGADS?

Currently, NIAGADS houses 17 datasets with 35,402 subjects and 18,940,290 genotypes. The types of data presently available include those from genome wide association studies (GWAS), genome wide expression data (e-GWAS), linkage data, and microsatellite marker analyses. In the near future, whole genome sequence (WGS) and whole exome sequence (WES) data will be available. In the coming months, exome chip, RNA-Seq, DNA-Seq, and CHIP-seq data will also be accessible. The capacity to align sequence to genomes, and display and share user annotation data will also be enabled. With a NIAGADS account, investigators may apply for any of several available datasets. The list of available datasets can be found at the following URL: https://www.niagads.org/available-data.

NIAGADS as Part of ADSP

WGS and WES data derived from analysis of raw and processed data from the study will be available for rapid access to the research community. Sequence and phenotype data will be shared freely upon completion of analysis of variant calling. Data analysis by the research community can begin immediately upon receipt of requested data. The ADSP will make readily available processed data and summary statistics from analyses. ADSP participants will quickly publish their data in at least one major paper. In the spirit of the clear benefit that grows from converting such data sets into community resources as rapidly as possible, users of the ADSP data are expected to withhold publication until the producers of the data have published their findings. Access to sequence data is by an interface between NIAGADS and dbGaP (http://www.ncbi.nlm.nih.gov/gap). A full summary of the ADSP research plan can be found at: http://www.niagads.org/content/adsp-plan. If you have further inquiries about ADSP, please contact Dr. Marilyn Miller at NIA: millerm@nia.nih.gov.

Data Access at NIAGADS

To access data through NIAGADS, please submit an account request to the administrator here: http://www.niagads.org/content/niagads-account-request. Once an account has been created, a simple application for data can be quickly reviewed by the NIAGADS Data Use Committee (DUC). In most cases, we expect the investigator will be notified of the application decision within 10 business days after the complete application is received by NIAGADS.