Jackson Heart Study Monitoring Board
Minutes of the Observational Study Monitoring Board
Marriott Suites Hotel, Bethesda, Maryland
May 25, 2004

Members present: Trudy Burns, T.B. Ellis, Mark Espeland, Paula Johnson (via phone), Shiriki Kumanyika (Chair), and Philip Wolf

Members absent: George Mensah, Catherine Stoney

Staff present: Drs. Barbara Alving (during student presentations), Gwennifer Epps (Contracting Officer) Cashell Jaquish, Teri Manolio, Cheryl Nelson (Project Officer) Hanyu Ni, Lorraine Silsbee (Executive Secretary) Evelyn Walker (Field Officer),

Investigators present: Robert Garrison, Daniel Sarpong, Asoka Srinivasan, Herman Taylor, James Wilson, Sharon Wyatt, Justin Vincent, and Ms. Wendy White

Executive Session

Dr. Kumanyika called the meeting to order at 8:50 a.m. and the minutes from the December 2, 2003 conference call were approved.

Project Office Report

The Project Officer, Cheryl Nelson, provided a study update. Baseline examinations have been completed. Clinic capacity for the last two months of examinations increased dramatically ranging from 45-65 participants per week. On March 31, 2004, examinations of 5,300 participants were completed including approximately 1,400 family members in 220 families. She noted that the investigators did an outstanding job in meeting these goals.

In the two months since recruitment ended, the Coordinating Center has been working on data cleaning and editing. These activities include preparing a derived variables/data dictionary, medication coding, and developing ideas for data analyses and manuscripts. Ms. Nelson noted that one challenge will be developing the process for collaborating with outside investigators.

Ms. Nelson also noted that the moratorium on ancillary studies has been lifted and the investigators have developed a Data and Materials Distribution Agreement that was approved by each of the three JHS Institutions' legal offices and IRBs. The Data and Materials Distribution Agreement is now under review by the Project Office. It was pointed out that the ancillary studies application and guidelines are included in the OSMB report along with a proposed ancillary study burden table. The Board raised the issue of the amount of involvement outside investigators should have, and how data will be protected. Dr. Manolio noted that, in general, Institute policy is that data be used by the broadest community as possible while balancing the investigators' need to analyze their data without compromising their study. It was noted that Data and Materials Distribution agreements are designed to offer these protections and

confidentiality. Dr. Kumanyika suggested that a mechanism be established to inform the scientific community of the availability of Jackson Heart Study data while establishing safeguards for its use. Concern was also expressed that the Jackson Heart Study community should have the ability to provide input on manuscript proposals similar to the Strong Heart model in order to take community sensitivities into consideration. The Board also expressed concern that the Data Coordinating Center may not have the staffing capacity for all of the functions associated with data distribution, i.e. editing, documenting, analyzing and distribution.

The Project Office has approved the Investigators Interim Clinic Plan, a plan to provide continuing education and to foster cohort retention for the 18 month period between the first and second examinations. The education component will focus on follow-up of reported participant results with attention to those with alert findings. The plan also provides educational sessions to improve heart disease risk factor awareness, and promote healthy behaviors. The Interim Clinic Plan was endorsed by the Board. It was noted that this is a unique plan for a study and that the Jackson Heart Study is the first to implement this type of plan.

The Office of Management and Budget (OMB) has approved the JHS request to continue annual follow-up data collection with "Third Party Respondents." The expiration date for data collected about participants from physician participant proxies is May 31, 2007.

The Institute has approved the release of the Request for Proposal (RFP) to renew the Jackson Heart Study. The RFP was released on May 18, 2004. According to the acquisition schedule, the receipt date for proposals is August 18, 2004. The primary review is scheduled for mid-November, and the secondary review will be held in mid-December. Negotiations will occur after the holidays in mid-January, 2005 with contracts awarded on June 1, 2005.

Data in Tab 7, page 4 responds to a request by the Board to complete the transfer of paper consent forms into the data management system and to report data on participant consent.

Ms. Nelson distributed the CVs of the two Jackson Heart Study Scholar presenters, Angel Byrd and Derrick Spires. They were here to tour the NIH campus, meet with several NIH officials, and to present their research at the OSMB meeting.

General Session

The investigators joined the meeting a 9:15. Dr. Kumanyika congratulated them on meeting revised recruitment goals.

Responses to Board Recommendations:

Dr. Taylor provided a summary of the responses to the recommendations by the Board from the December 2, 2003 conference call.

Clarify the age distribution and sample size estimates. Incorporate differences in age distribution in the sample size estimate. Specifically target the 55-74 year old age group in recruitment strategies and outreach efforts.
Dr. Taylor summarized trends in CVD death rates for men by comparing those for the Jackson Heart Study and the Jackson Metropolitan Statistical Area. The majority of the sample is between the ages of 45-74 with approximately equal distributions for the age groups between 35-44 and 75-84. The lowest numbers of participants were below age 35 and above age 85. The trend by ages parallels the community at large except at the youngest age group, while the ARIC participants skewed the oldest age group. Tab 2 provides a summary of these data.

Develop ways to quantify success of outreach activities.
Dr. Taylor indicated that it is difficult to quantify the success of the outreach program. However, he noted that the area of Canton initially had no recruits for the random sample. After a significant community outreach effort, individuals from that area participated in the study. Overall, after emphasizing the importance of being in the study, there was an increase in the number of men enrolled, though women still outnumber men by 55% and 45% respectively.

Provide completeness of data entry from exam forms.
For the most part, data entry forms are complete. The 24 hour studies and home questionnaires have a low completion rate. It was noted that even the spot urine, (which has a high rate of acceptance), rates are low, but are reflective of the fact that they were obtained late in the course of the study. This should not be reflected in the denominator for the entire cohort. The data are presented in detail in Section C of Tab 7 of the Report to the Board.

Provide a table of the number of sib-pairs examined.
920 sibling pairs were identified in the Family Study cohort, which represents different combinations of pairs within families. Page 3 of the Report to the Board provides the details of these data by degree of relationship (1st°, 2nd° or 3rd° relatives, relative type and number. Accrual of data for the family study was stopped on March 4 in preparation of the Report to the Board and to allow for data cleaning.

Change the sign to "greater than" for Vitamin B12 acceptable range on the results report.
This change was made.

Consult with Dr. Greg Evans, Wake Forest University on ways to present ultrasound data.
In consultation with Dr. Evans, the ultrasound data presented in the Report to the Board (Section H, Tab 10) have been presented in a new manner.

Post the Echocardiography Manual of Operations on the Jackson Heart Study website.
This has been done.

Lift the moratorium on ancillary studies as of June, 2004. Develop formal Ancillary Study procedures for determining participant and staff burden/feasibility prior to end of moratorium.
Procedures for determining staff burden/feasibility for future ancillary study proposals have been developed. During the discussion of ancillary studies, the Board expressed concern that human

subject and safety issues come to the Board for review. It was noted that the Board must approve ancillary studies and should consider safety concerns at the time of the approval.

Exam Center Report

Recruitment:

As of March 31, the final Jackson Study cohort was 5,311 participants representing 97% of the target for the study, a shortfall of 189 from the target of 5,500. Strategies employed in the last 6 months of the study to maximize recruitment were considered successful. Some of these strategies included grass roots approaches to increase recruitment of the hard to reach volunteer and random cohort participants; involving JHS staff across all centers to target hard to reach groups in churches and community organizations; and increased media coverage. Increased effort was also made to schedule clinic visits for those who had completed the Home Induction Interview, but had not been to the clinic. The greatest shortfall in recruitment was in the family study due to its late start. The number of examinations was lowest in the 75-84 year old age group

Participation Rates: The lowest percent of participation was in the 21-34 year old age group, while the highest was in the 45-64 year old age group. It is noteworthy that ARIC participants represent approximately 35% of all participants; approximately 17% of the participants came from the random sample; the volunteer sample comprised 24% of participants, and 23% of participants were enrolled in the family study.

Consent:

Earlier versions of the consent form (A&B) identified blank responses for DNA and cryopreservation as "missing data." 37.7% of the cohort provided full consent which is defined as agreeing to all elements contained in the consent checklist. If a participant did not agree to any one of the elements, the participant was considered to have provided partial consent. For those giving partial consent, the common elements resulting in this classification were related to DNA and genetic studies with 35 percent of the total cohort declining release of DNA samples to private companies for pharmaceutical or therapeutic research. Only 71% agreed to release of samples for the study of cardiovascular disease and only 78 % agreed to release of data for the study of major diseases. While few actually declined (1.9 and 4.1 % respectively) the large percentage of missing data pointed to a problem with understanding the consent form. When this problem was identified, the forms were revised (C&D) and increased attention was devoted to ensuring the forms were complete with no conflicting responses. This effort resulted in 0% missing data for consent version D.

The investigators solicited response from the Board on ways to handle missing data on the genetic components of the consent form. The Board recommended that the investigators re-contact participants with "missing data" to clarify their responses on consent forms A&B. These represent 1,400 family study and unrelated participants.

Family Component:
Dr. Wilson reported that 224 families have been enrolled in the family study with an average family size of 6.4. There are 501 parent-offspring pairs and 920 sibling pairs. After the data are cleaned and consent is reconfirmed, it is expected that permission will be granted to use DNA from over 1,300 individuals. A proposal for genotyping 920 sib pairs and 501 parent-offspring pairs was submitted to the Mammalian Genotyping Service (MGS) supported by NHLBI. Investigators expect to hear about the MGS decision by June 30, 2004. If approved, samples will need to be sent to MGS by September, 2004. The analysis data included 208 pedigrees constituting 1,230 persons with phenotypic data. All biologic relationships will be verified once genotypes have been received from MGS. DNA samples of these participants are available to the study and consent for DNA analysis has been verified by review of the appropriate consent field.

Diet and Physical Activity Sub Study (DPASS):
DPASS serves as the quality control for the diet assessment component of the JHS cohort and administers the diet calibration/validation activities for both the diet and physical activity instruments for the entire Jackson cohort and a 500 person sub sample of the cohort. A short version of the Food Frequency Questionnaire (FFQ) was sent to the entire Jackson cohort. The 500 DPASS individuals received a longer version of the FFQ, a dietary recall questionnaire and a physical activity questionnaire. Recruitment for the DPASS component ended in March, 2004 and remaining interviews are being completed for closeout. The final sample size is not known, but they have currently recruited 489 with 500 expected after closeout activities by the end of May.

The Delta and Nutrition Intervention Research Initiative (Delta NIRI) is a USDA funded research initiative to evaluate nutritional health in the Lower Delta, to identify nutritionally responsive problems, and to design and evaluate interventions for large scale implementation. It is being implemented by the USDA Human Nutrition Research Center on Aging at Tufts University. In keeping with study representation as a whole, this component is approximately 64% female. The Food Frequency Questionnaires (FFQ) are being transferred to Tufts for analysis. To date 2,413 FFQs have been transferred; 1,700 have been processed with a completion target of June 30, 2004.

Comments by the Board:
After updates on the various aspects of the Study, the Board provided comments. Dr. Ellis congratulated the investigators for doing an excellent job. He noted that the media campaigns and increasing the number of recruiters were successful strategies which increased the rate of conversion from Home Induction Interviews to clinic examinations. The Board questioned whether the volunteer component of the cohort had healthier lifestyles and noted that information on the BMI of volunteers was not provided. Dr. Taylor did note that the volunteers had a higher SES, but in many measures, the volunteer group was not very different from the cohort as a whole. He did note however, that since the response rate was lower in the random sample, there was some selection bias.

The Board suggested that a history of the recruitment process be documented to provide an understanding of how the cohort was developed. It should include a summary of the challenges of recruitment and decisions made along the way including the decision to reduce the target from 6,500 to 5,500. This could be included in a manuscript that may be referenced in subsequent papers. It was also decided that future papers refer to the revised recruitment target of 5,500.

The Board questioned whether initial data analyses should be adjusted for source of recruitment. It was suggested that source of recruitment be included as an adjustment variable to see if it makes a difference in analysis. The investigators indicated that there is interest in this aspect of analysis and it will be considered.

The Board questioned the completeness of alerts and Dr. Wyatt indicated that all alert reports will be sent out by the end of May. The most common alerts are for blood pressure and ECG findings.

Dr. Kumanyika commented about the excellent numbers for the annual follow-up report. Dr. Wyatt indicated the follow-up report is accurate and that if participants come to the clinic, the follow-up is excellent. Participants are encouraged to come for follow-up in several ways: at the annual Jackson Heart Study Birthday Celebration for participants; through birthday and holiday cards sent by the Study; by maintaining a high community profile of the study.

Coordinating Center Report:

Dr. Sarpong reported that approximately 10% of the cohort had missing data. Because special codes were not used, missing data could represent skipped questions, refusals, don't know or not applicable. Blank fields were the default. A data validation process has been designed to conduct data checks by data collection instruments (forms) or reading center and central lab data. The Coordinating Center now has a plan in place for resolving missing/conflicting data problems. For added quality control of the data collection, measures of certain clinic components such as anthropometry, blood pressures, blood/lipids echocardiography and ultrasound are repeated. The Coordinating Center intends to develop and implement a plan for replicate studies for future examination visits prior to the start of examinations. The Coordinating Center will also ensure that the replicate study plan is successfully implemented.

Dr. Sarpong reported that the majority of data components are 95% percent complete though the 24 hour studies have the lowest completion rates. Most participants (89.3%) are between the ages of 35 and 74 and 64.1 percent of the participants were female. Most of the participants have a BMI greater than 30, with more females (59.4%) having a BMI over 30. Overall, 15.6 % of the cohort has a BMI less than 25 and 31.7 percent has a BMI between 25-30; and the remaining 52.7% has a BMI greater than 30. Dr. Kumanyika suggested that the study also report BMI greater than 40 as it is presented in NHANES data.

Dr. Sarpong summarized health related habits and work including alcohol consumption, cigarette smoking, full vs. part time work status, and physical activity. Most participants have one job (85% one job; 15% more than one job) and most participants reported less than 5 minutes of physical activity per day which was comparable between males and females. More than half of

participants (55.1%) had a history of hypertension with a higher prevalence in females compared to males. The majority of participants did not report a history of high cholesterol.

Medication Coding:
To date approximately 41 % of the medication coding has been completed and all of the coding is expected to be completed by June 30, 2004.

Data Closeout:
The data closeout plan has three components. The plan addresses issues related to recruitment, cohort examination procedures, family study data and data processing by reading centers and will be conducted over time between May and September, 2004. The goals of these plans are to ensure all paper records are in order, all information has been entered into the data management system, and to ensure files for each JHS participant are complete.

Comments from the Board:
Dr. Espeland told the investigators that he appreciated the investigators' energy and ambitious timeline and congratulated the group on the data management aspects of the study. He questioned the systematic differences in readers on the IMT data, but thought the trends seemed appropriate. Dr. Sarpong indicated that IMT readers may be included as a covariate for analyses. One Board member expressed concern that it is difficult to tell where data are missing until the coding systems are revised. Dr. Sarpong indicated that every blank field is coded as "missing." These fields will be flagged and clinic staff will resolve these flagged data.

Dr. Kumanyika asked whether follow-up forms have been revised to handle this problem in the future. Dr. Sarpong indicated that the forms have not yet been revised, but they will create new forms and new codes. Dr. Kumanyika suggested that the group use knowledge gained from experience and revise the follow-up form to avoid having to back track and hand code blank fields.

Dr. Wolf questioned the use of the "Clintrials" program since it has many known limitations. Dr. Sarpong indicated that they have developed an interface to handle problems associated with "Clintrials" and at this point it would be faster and more efficient than migrating to a new system. They have sufficient experience with it that they can have the system fully operational on the first day of the next examination cycle. Eventually, they will migrate to a new system.

The Board expressed concern about staffing at the Coordinating Center to handle all the activities related to the above plans. The Coordinating Center indicated they are actively recruiting two additional staff members for these activities. The Board encouraged the Coordinating Center to hire these people relatively soon.

Community Partnerships and Outreach Activities

An update on community partnership and outreach activities was provided including faith based, Community Health Advisory Networks (CHAN), health fairs presentations, conferences, festivals, meetings displays and events. In addition, planning activities for sustaining the cohort were described including organization meetings and staff training for CHANs.

To help quantify the success of the outreach activities, the Partnership Office has developed a Manual of Operations and strategic plan that includes benchmark and evaluation components. In addition, the multiple approaches used for recruitment in areas where recruitment was difficult have been successful. These approaches included using a specific timeframe for targeting certain outreach activities, and comparing the number home induction interviews and clinic visits with previous time periods. Now that the cohort has been assembled, analysis of these data can provide useful references for future recruitment activities. The goal of the investigators is to have a working document to set objectives, goals and desirable outcomes for outreach activities such as "Know Your Numbers" campaigns, community events, research forums, faith-based alliances, and health fairs.

Comments from the Board:
Dr. Kumanyika praised the investigators efforts in the area of community involvement and inquired how much of these activities will be funded in the renewal of the JHS. Dr. Sarpong was uncertain about the funding, but indicated that a strategic plan with 3-5 year goals will determine how they proceed and how much funding will be sought. He indicated that they hope that some of the community activities will be able to stand on their own through small grants and other funding sources. Dr. Wyatt indicated that the community partnership groups have had annual Community Monitoring Board meetings. Until recently, the Board mostly presented summaries of their activities, but now it has changed to include forums with discussion, and solicitation of community input. Within the past six months, that Board has been helpful with recruitment efforts.

Dr. Kumanyika suggested that the investigators and collaborators review the model for community input developed by the Strong Heart Study to ensure that the efforts of the Jackson Heart Study take advantage of community input and consider potential community sensitivities. Dr. Taylor indicated that he has reviewed the Strong Heart Study model and realizes the need for substantive community representation and input. He indicated that manuscript proposal applications currently include a lay description of the research so the community can easily understand what is proposed.

Undergraduate Training Center:
The activities and numbers of graduates of the Undergraduate Training Center and high school "SLAM" program were summarized. The UTC has established a system for tracking all students to learn what they are doing after leaving the program. All high school students have been placed in impressive summer research internships and recent graduates are moving on to graduate schools including enrollment in MD/PhD programs, law schools and other post graduate work.

Dr. Kumanyika described a new program called the Young Epidemiology Scholars (YES) Program co-sponsored by the College Board and Robert Wood Johnson Foundation. This program sponsors two competitions – one for high school teachers to develop an epidemiology curriculum, and an epidemiology research competition for high school students. Dr. Kumanyika encourages the investigators to review the curricula developed through this program to see what aspects can be applied to the Undergraduate Training Center activities. Additional information

about this program may be found at the following website:
http://www.collegeboard.com/yes/index.html

The Board noted the impressive strengths of the programs at the Undergraduate Training Center and encouraged them to keep up the good work.

Interim Clinic Plan (ICP):
The interim clinic plan is designed to bridge the gap between the first and second examinations, to help the study maintain a constant presence in the community, retain trusted and experienced Jackson Heart Study staff, provide the cohort with useful health information, and retain cohort participation in JHS. This plan was approved by NHLBI and endorsed by the Board. The Board was very enthusiastic about the ICP. They emphasized that a tracking component for this plan is critical to learn which and how many participants become involved in the "Know Your Numbers" component as well as who participates in other risk reduction programs or lifestyle change programs, e.g., a weight control program during the course of follow up.

Publications:
Dr. Garrison presented an overview of the publications both for the Jackson Heart Study and collaborations with ARIC. Currently, most of the publications are collaborative with the ARIC Study, but the investigators indicated that future lists would include a substantial number of Jackson Heart Study publications. The Board requested that future lists distinguish between publications done jointly with ARIC and those that solely result from the Jackson Heart Study. Dr. Garrison indicated that researchers at collaborating institutions such as University of North Carolina, Chapel Hill, University of Minnesota, and Wake Forest will be analyzing data and proposing publications.

Recognizing they don't have enough resources for all the analyses, the investigators sought the advice of the Board about striking a balance between sharing data with collaborators and preserving the ability for the primary Jackson Heart Study investigators to publish. The Board endorsed the investigators' suggestion that they work with the data first to understand it and also suggested the investigators prioritize their publications. The Board also cautioned the investigators to develop procedures to handle requests for collaborations. Additionally, it was suggested that the investigators propose several baseline papers for the study and be poised to write them as soon as the final data are ready.

Scientific Presentations
Two Jackson Heart Study Scholars, Angel Byrd and Derrick Spires presented results of research they conducted as part of the Jackson Heart Study Scholars Program. Ms. Byrd presented an overview of the Look AHEAD Study: Does long-term weight loss reduce the risk of cardiovascular disease in Type 2 diabetes? Mr. Spires explored the concepts of madness and masking in the *Invisible Man* by Ralph Ellison. Both presentations were outstanding and well received by the Board and by Dr. Alving, who joined the meeting for these presentations.

The investigators left the meeting at approximately 2:30 p.m. The next Board meeting will be held in approximately one year, with an interim update provided by investigators.

Recommendations from the Board

The Board commended the investigators on their overall progress in conducting the JHS, developing solid relationships with the community, promoting undergraduate training, and achieving the critical milestone of completing recruitment with attainment of the revised recruitment goals as well as the outstanding outlook for follow up rates. The Board then made the following recommendations to the investigators.

1. The investigators should bring human subject and safety concerns related to ancillary studies to the attention of the Board and provide a periodic update of these issues.
2. The investigators are encouraged to continue and expand community involvement in the research and dissemination process, with reference to models such as the one developed by the Strong Heart Study.
3. The investigators are encouraged to document and publish, as soon as possible, the early recruitment history including original recruitment goals, and how the recruitment process evolved.
4. The Coordinating Center (CC) should request sufficient support for data management, analysis, and distribution. The CC is encouraged to fill positions they are seeking as soon as possible.
5. The investigators should prioritize updating of clinic forms in order to include differentiation between data that are missing, not applicable to the respondent; not applicable because of skip patterns, or refused.
6. The Undergraduate Training Center is encouraged to take full advantage of resources of the Young Epidemiology Scholars Program in developing curricula for their programs.
7. The investigators should consider obtaining an in-house coordinator/contractor to assist with analysis of genetic data and to develop infrastructure associated with management of genetic data.

Investigator Requests to the Board

The investigators sought endorsement by the Board to re-contact participants with missing data before samples are sent to the Mammalian Genotyping Service. The Board endorsed this request.

The Investigators sought advice on balancing the need for Jackson Heart Study investigators to publish results with the desire to provide data to outside collaborators. The Board discussed various approaches (outlined above) to strike this balance.

Dr. Shiriki Kumanyika, Chair — Date: 8/2/04

Lorraine M. Silsbee, Executive Sec — Date: 8/3/04