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Going the Distance: Overcoming Challenges in Recruitment and Retention of Black and White Women to a Multi-Site, Longitudinal Study of Predictors of Coronary Heart Disease

Abstract

High recruitment and retention rates are hallmarks of scientifically rigorous longitudinal research. However, recruitment and retention are challenging, especially with elders and minorities. In this article, we discuss strategies that have enabled us to retain over 80% of both Black and White women in a 5-year observational study. To overcome such challenges as staff turnover and introduction of computerized record systems, we developed a time-saving handout, streamlined procedures for documenting contact information, and motivated site-staff through weekly personal contact. We responded to problems with mailed HIPPA consent forms by garnering approval for verbal consent that allowed immediate response to participants' questions. In addition to standard steps to minimize attrition, we encouraged ongoing participation with personal letters following interviews, sent "refrigerator reminders" of the next interview date, and sent "missing you" letters following missed appointments. We believe these and other strategies we describe here were responsible for our high retention rate.

High rates of recruitment and retention are among the hallmarks of scientifically rigorous longitudinal research. High participation at baseline and low attrition among baseline participants reduce the risk of selection bias, increase the representativeness of the study sample, and enhance the generalizability of findings. Further, high rates of baseline participation and retention throughout the study period ensure adequate statistical power.

Recruitment and retention are often challenging however, and recruitment of older adults, women, and members of ethnic minorities may be especially challenging (Wendler et al., 2006; Sheikh, 2006; Goode et al., 2008; Smith et al., 2007). In this article, we present a brief overview of challenges to recruitment and retention in clinical research and strategies for meeting those challenges. We then describe the strategies we have employed in an ongoing 5 year longitudinal study designed to identify predictors of coronary heart disease (CHD) events in women.

Background

Reasons for Participation

Research participants give many reasons for their willingness to take part in research, including its perceived relevance to themselves, an altruistic desire to help others, trust in the research team, monetary rewards, and the possibility of therapeutic effects (Peel, Parry, Douglas, & Lawton, 2006; Nakash, Hutton, Lamb, Gates, & Fisher, 2008; Wendler, Krohmal, Emanuel, Grady, & ESPRIT Group, 2008; Gonzalez, Gardner, & Murasko, 2007; Farmer, Jackson, Camacho, & Hall, 2007). Also, some persons volunteer to participate because they are curious and want to try something new or they simply want to overcome boredom (Almeida, Azevedo, Nunes, Vaz-da-Silva, & Soares-da-Silva, 2007).

Reasons for Non-participation

Those who decline to participate cite a variety of concerns associated with taking part in research including risk of complications associated with being in intervention studies, fear of being a “guinea pig,” and literacy limitations. In addition, they cite issues arising from conflicting commitments (e.g., work, school, care-giving responsibilities), co-morbid health problems, and participation-related inconvenience (e.g., transportation and multiple medical appointments) (Goode et al., 2008; Dunlop, Graham, Leroy, Glanz, & Dunlop, 2007; Almeida et al., 2007; Nakash et al., 2008; Jones et al., 2006; Lillington, Johnson, & Chlebowski, 2000; Linden et al., 2007). The burdens associated with taking part in research may be a disincentive to participation, especially among minorities (Gonzalez et al., 2007; Russell, Maraj, Wilson, Shedd-Steele, & Champion, 2008).

Older adults may find it more difficult to participate than working-aged adults because of lack of transportation, limited mobility, and/or the effects of co-morbid health problems (Goode et al., 2008; Arean & Gallagher-Thompson, 1996). Even in the absence of limited literacy, long consent forms may be especially fatiguing and troubling for older adults (Goode et al., 2008). They may be keenly aware of the passage of time and thus reluctant to devote the time required to participate in randomized clinical trials. Group, Haas, Fairweather, Ganger, & Attwood (2005) reported that older adults were reluctant to participate and risk randomization to a wait-list-control because they feared that they might not be alive to receive the intervention at the end of the wait-list period.

Members of ethnic minorities may be disinclined to participate because of concerns about being harmed through research, as well as mistrust of the health care system in general and research participation in particular (Smith et al., 2007; Ding, Powe, Manson, Sherber, & Braunstein, 2007). The unethical withholding of treatment in the Tuskegee study still influences the degree of trust in the ethics of investigators conducting clinical research involving ethnic minorities and may reduce willingness to take part in such research (Lillington et al., 2000; Linden et al., 2007; Farmer et al., 2007). According to Smith et al. (2007), recruitment of minority women is especially problematic.

The literature on recruitment among ethnic minorities is inconsistent. The inconsistencies may be due in part to the fact that the literature encompasses both rates of and reported rationales for willingness to participate in hypothetical research as well as in actual research. The inconsistencies may also reflect a conflating of different degrees of willingness to take part in intervention research, in which participation involves treatment(s), laboratory assessments, and/or blood draws, and to take part in observational research, in which participation is limited to completion of questionnaires and/or record reviews. A recent review of the literature on actual enrollment rates found little evidence that African Americans and Hispanics in the United States are less willing to participate in health-related research than non-Hispanic Whites (Wendler et al., 2006). Indeed, the authors reported that in a group of 10 clinical intervention studies, Hispanics had a significantly higher overall consent rate than non-Hispanic Whites. Misunderstanding of the informed consent process and mistrust aroused by the Health Information Portability Act (HIPAA) consent form may differentially discourage African Americans from participating in clinical research (Dunlop et al., 2007), although the forms may be problematic for elders, and for other minority and non-minority persons as well.

Third Party Involvement/Gate Keepers

In clinical research, investigators are often dependent on non-study personnel in clinical settings to identify and refer potential participants. This adds a layer of complexity to recruitment, especially in the context of HIPAA requirements. Engaging and sustaining the active collaboration of recruitment sites and site personnel can be daunting since non-health

professional personnel, such as receptionists, often have little vested interest in the study itself, may not be meaningfully compensated for their study-related time and effort, and may face many competing demands on their time. Professional gatekeepers may serve as a barrier to recruitment due to lack of interest in the research and/or fear of needing to modify work-flow (Goode, Mott, & Chater, 2008). Additionally, community gate keepers who are trusted and perceived as leaders may not support the research, thus negatively affecting recruitment efforts (Russell et al., 2008). Even if researchers gain initial cooperation from gate keepers, sustaining their active collaboration over time and/or at multiple independent recruitment sites is challenging.

Strategies to enhance recruitment

Effective communication and motivation are keys to engaging critical recruitment sites as well as potential participants in clinical research. Recruitment is enhanced when both non-study site personnel and potential participants have a clear understanding of what the purpose of the project is, what they will be asked to do, and how the research will benefit them and/or their community. Information needs to be provided in language appropriate to the audience (Albrecht et al., 2008; Lillington et al., 2000; Farmer et al., 2007). When physicians are involved in the recruitment process, the quality, clarity, and amount of communication between physicians and patients are of primary importance (Albrecht et al., 2008). It may be important to potential participants to know that their physician, family or others important to them support the research, and it may be equally important to non-study site personnel to know that their organization supports the research (Albrecht et al., 2008; Jones et al., 2006; Gonzalez et al., 2007; Voyer, Lauzon, Collin, & Cousins, 2008; Albrecht et al., 2008).

Site collaboration is enhanced when study investigators have a history of involvement with the site. Active site support may be especially critical for recruitment of members of ethnic minorities. The literature suggests that participation among members of ethnic minorities is greater when the ethnic group is represented on the research team (Smith et al., 2007; Linden et al., 2007; Farmer et al., 2007; Smith et al., 2007). Referral from clinical sites that are matched to the community on ethnicity may also increase trust and facilitate recruitment (Alvarez, Vasquez, Mayorga, Feaster, & Mitrani, 2009; Farmer et al., 2007).

Likewise, trust is enhanced when study personnel and non-study recruitment personnel treat potential participants with respect. This is especially important for older adults and members of ethnic minorities (Farmer et al., 2007). Potential participants' sense that they are important to and supported by researchers is likely to increase when impediments to their involvement (e.g., transportation barriers, language barriers, and timing issues) are addressed (Arean & Gallagher-Thompson, 1996; Holcombe, Jacobson, Li, & Moinpour, 1999). Goode et al. (2008) provide an excellent list of strategies to address barriers to recruitment of women.

Retention Challenges and Strategies

In longitudinal research, statistical power and the generalizability of study findings are dependent on participant retention. Attrition usually increases as the length of the follow-up period and the demanding nature of periodic assessments increase. Depending on the interval between study assessments, motivational telephone calls or letters between assessments may help to sustain rapport between investigators and participants and minimize attrition; research participants have reported that personal letters and telephone calls make them feel valued by the research team (Voyer et al., 2008; Gonzalez et al., 2007; Schulz, Wasserman, & Ostwald, 2006; Khoo, O'Neill, Travers, & Oldenburg, 2008). Telephone calls and letters also serve as a mechanism for verifying contact information between assessments and thus reduce the risk of loss to follow-up.

While some causes of attrition (e.g., death, incapacity, relocation unassociated with the study) are outside investigators' control, and some participants will complete a study simply because they have agreed to do so (Nakash et al., 2008; Wendler et al., 2008), incentives may facilitate retention (Gonzalez et al., 2007). Not all incentives are financial or tangible. Wendler et al. (2008) found that perceiving medical and/or personal benefits, contributing to science, and helping others were major incentives for continuing participation in their study.

Minimizing the demands on participants, especially older participants, helps with retention. In-home or telephone-based assessments can reduce travel and mobility barriers to continued participation (Arean & Gallagher-Thompson, 1996), and flexibility in scheduling assessments allows participants to address transportation and time constraints (Gonzalez et al., 2007; Khoo et al., 2008). Because the length of questionnaires and overall assessment time may increase attrition (Nakash et al., 2008), providing an opportunity for frequent breaks and/or for collection of data over multiple visits may increase retention, especially among older adults. Similarly, retention of participants with vision impairments may be facilitated by providing large-font questionnaires, while assessments conducted in a quiet environment and/or with a sound amplifier may aid in retention of older adults with hearing impairments (Goode et al., 2008). Goode et al. also suggest sending copies of large-font questionnaires to participants before telephone interviews to help vision- and/or hearing-impaired participants follow along with the interviewer.

Establishing appropriate levels of monetary incentive/compensation is important but often challenging. While participants should be fairly compensated for the time and effort they invest in a project, researchers must offer a level of compensation that is commensurate with contributions and not perceived as "coercive" by either the participants themselves or the project's institutional review board.

Predicting CHD Events in Black and White Women (PREDICT Study)

We are currently completing a 5-year observational study whose goal was to recruit 1,500 women and retain 1,200. To be eligible, women had to be either Black or White, referred for first-time cardiovascular evaluation, have no known cardiac disease, and be able to pass a cognitive screen. We used a six-item cognitive screen that is appropriate for telephone surveys, the Blessed Orientation Memory Concentration (BOMC) test. This short questionnaire also minimizes participant burden. Adelman and Daly (Adelman & Daly, 2005) compared this instrument with other commonly used measures and reported the BOMC had 90% sensitivity and specificity of 65–90. Weighted error scores greater than 10 (of a possible 28) are consistent with the presence of dementia (Katzman et al., 1983) but others indicate that race and ethnicity (Bohnstedt, Fox, & Kohatsu, 1994) and age (Bleecker, Bolla-Wilson, Kawas, & Agnew, 1988) may impact cognition scores. Therefore, since our population of interest is older Black and White women, we used a more liberal weighted error score of 16 or higher as the cut-off for eligibility. Therefore, it is possible that some women with mild cognitive impairment may be participants in the study.

Although we have completed the recruitment phase of the study, we continue to interview women who are currently enrolled. We recruited women through community-based clinics throughout the state of Arkansas and in Lexington, Kentucky. We have followed each participant for 24 months, conducting telephone interviews every 3 months. Women complete a baseline interview lasting approximately 1 hour, up to seven follow up interviews, and a more extensive final interview.

Initial recruitment strategies

Prior to initiating recruitment, the principal investigator (PI) met in person with physicians at each potential recruitment site to gain support for their clinic's participation. In multi-partner practices, she met with the primary physician of the group. This physician typically presented the study to the other partners and garnered their written support for participation. Following these meetings, the PI and project director met with the clinic office manager and other selected staff members such as receptionists. At this meeting we explained the recruitment process, identified staff members' roles, and devised an appropriate plan for each clinic that minimized added work and did not interrupt patient flow. Initially, a research assistant (RA) was present in the clinic during peak hours that clinic staff identified as optimal for recruiting patients who had been referred for first time cardiovascular evaluation. Eventually, staff asked that RAs not attend the clinic because of over-crowding. In response, the clinic staff and research team reevaluated the recruitment process and initiated the changes described below.

To enhance the recruitment, we developed a colorful handout to assist staff in recruiting potential participants (see Figure 1). This handout was included in the regular clinic paperwork provided to each patient before she was seen by the physician. When women turned the paperwork in to the receptionists, they were asked whether they were interested in learning more about the study. If a woman was interested, her demographic data sheet was copied and either faxed or put in a pre-arranged collection site for an RA to pick up when visiting the site. The RA collected these data sheets at least semiweekly and also took advantage of this time to socialize with the receptionists. This face-to-face time was important in and maintaining relationships with staff, and establishing relationships with new staff; the result was continued site staff support and participation in the recruitment process.

Numerous challenges arose during the 3.6 years of recruitment. First, because clinic receptionists were uncompensated, their enthusiasm dwindled over time. There was frequent turnover of clinic staff and an increase in staff workloads as new physicians were added to the practices. Our major recruitment site also switched from a paper medical records system to a computerized one, which made it more difficult to identify new patients and necessitated another revision in the recruitment process. To overcome these challenges, we focused on simplifying recruitment and minimizing staff burden. To stimulate interest and enthusiasm among receptionists, the PI and/or RA visited each site weekly and frequently took small gifts to thank staff for their continued support. These gifts included informational and other items related to women and heart disease, heart-healthy foods and items such as flavored coffees and fruit baskets. Receptionists appreciated these tokens of recognition for their support.

Clinic staff turnover was more problematic and may have had the greatest impact on recruitment. Members of the research team and the PI attempted to meet all new site staff within the first 3 weeks of hiring. However, because new staff gave precedence to the myriad tasks associated with learning and fulfilling a new role, they had less time to identify women who might be interested in study participation, and thus submitted fewer names to the research team. Because we received fewer referrals than expected, the research team made every effort to recruit interested women, and retaining enrolled women assumed the utmost importance.

Our only communication with potential participants was by telephone. Thus, effective communication was vital to recruitment and retention. All RAs were registered nurses with cardiovascular experience and were very personable. Upon first telephone contact, they explained the purpose of the study, answered all questions, read the consent to potential participants and obtained the verbal consent of interested women. Although our IRB granted permission for verbal informed study consent, we were required to obtain written HIPAA consent from each woman before conducting baseline interviews. Following the initial telephone call, we mailed copies of the completed informed consent and the unsigned HIPAA

consent form. The mailing included a stamped, addressed return envelope as well as a personalized note that contained our contact information, so that potential participants could easily call us with additional questions. We encouraged elderly women to discuss the study and HIPAA consent form with their family members so that all were comfortable with the woman's decision. Initially, women had difficulty understanding the HIPAA consent form, and they and their families often expressed doubts about signing it. Despite our telephone calls to ask if we could answer concerns or questions, HIPAA consent form return rates were low. The women frequently said they wanted to participate but were afraid to sign this form. Therefore we sought and received IRB approval to obtain HIPAA consent by telephone. This proved successful because RAs could immediately answer questions and specify what information we would obtain from their medical records.

Strategies to enhance retention

We continue to follow participants and to conduct interviews. Because we never meet participants in person, telephone etiquette is extremely important. RAs always introduce themselves as registered nurses because nurses are generally trusted by the public. They use the women's names throughout the interview to add a personal touch and try to connect with them. Depending upon the women's preference, the RAs address the women by first name or by Mrs. or Ms in conjunction with their last name. They engaged in small talk for several minutes at the beginning of each interview to break the ice. If women call the study office, their calls are returned promptly to show respect for their time. Because many of the women are elderly, we always allow ample time for all responses and never rush anyone. Participants are often glad to hear from us and quickly return our calls. Several women, as they came close to completing the study, asked whether there was another study they could participate in because they looked forward to our calls. The RAs often feel that they are the only people listening to these women. Many participants also express gratitude that they are able to contribute information that may help other women.

Following each interview, women select the date and time of their next interview; we provide ample opportunities for early morning and evening interviews to accommodate those who work. Participants receive compensation and a personalized letter after each of their nine interviews. They receive a \$40 gift card for the baseline interview, a \$15 card for each follow-up interview, and a \$30 card for the final interview. Compensation for time and effort is commonly provided to study participants at baseline as well as at follow-up assessments to foster high rates of participation and retention (Carey, Vanable, Senn, Coury-Doniger, & Urban, 2005; Greenberg, Lifshay, Van Devanter, Gonzales, & Celentano, 1998; McFarlane, 2007). Others (Greenberg et al., 1998; McFarlane, 2007) have provided incremental monetary amounts across data collection points in longitudinal studies to increase retention rates, as we do. Additionally, we based the compensation of the first and final interviews on the length of the interviews (subject burden). The total possible compensation for participating every three months over two-years is \$175. This level of compensation is consistent with levels reported in the literature and not deemed coercive in those studies (Carey et al., 2005; Carey et al., 2005; McFarlane, 2007) or by the Human Research Advisory Board at our University.

Each gift card is sent with a personalized thank-you letter that reiterates the importance of their data and thanks them for their participation. We also include a colored "refrigerator reminder" of the next interview date and time, scheduled at the completion of each interview. If for some reason, a woman misses a scheduled interview, an RA continues to call her at least daily for up to 2 weeks. When RAs are able to contact the women during this time frame, they emphasize flexibility in establishing the next interview date and time, and make every attempt to meet the scheduling needs of the women. It is not uncommon for women who know they will miss a scheduled interview to call us to complete the interview. We make every attempt to complete

the interview when they call us so as not to risk being unable to reach them again during the 2 week period. Women's willingness to telephone us to re-schedule their interviews indicates their understanding of the importance of their participation in the study.

Strategies to minimize loss to follow-up

During the consent process, we obtained each woman's current telephone number and a number for a reliable contact who would always know how to contact them. We have confirmed this telephone number at each subsequent interview. Nonetheless, RAs often find that numbers have been disconnected. When this happens, RAs search the white pages for telephone numbers. Some women have pay-as-you go cell phones and only have service a few days a month. We try to telephone everyone who has missed a call every day during their 2-week window. We leave messages, if possible, but there is often no voicemail. If all telephone attempts to contact a woman fail, the PI sends a "missing you" letter that asks her to contact the research team as soon as possible so as to continue in the study. Women frequently call in response to this letter and are able to complete their interview within the 2-week period. If a "missing you" letter is returned, it frequently has a forwarding address that allows us to contact the woman. These strategies have helped us successfully retain a high proportion of participants.

PREDICT Study Retention

As noted above, participants in PREDICT complete a baseline interview and eight follow-up interviews conducted at 3-month intervals over a 2-year period. Participants who miss more than 2 of their potential follow-up interviews are withdrawn from the study and considered not to have completed it. Thus, for participants who do not experience a cardiovascular event (myocardial infarction, angioplasty, coronary artery bypass surgery, stent placement), completion of the study is defined as completion of the baseline interview and at least six of the eight follow-up interviews. Because follow-up interviews are discontinued at the time a cardiovascular event or death from any cause occurs, participants who experience an event or die of other causes are considered to have completed the study as long as they had not missed more than two of their follow-up interviews prior to the time of death or cardiovascular event.

As shown in Table 1, 1203 women consented to participate in the study, 29 of whom were subsequently found to be ineligible. Of the 1174 women who consented and were eligible, 64 (5.5%) did not complete a baseline assessment: HIPAA authorization forms were not returned by 5, 30 could not be contacted, and 29 withdrew before completing the baseline interview. Retention rates for 301 of the 1110 women who completed baseline assessments and remain active in the study cannot yet be determined because it is still possible for them to miss a total of three follow-up interviews. Among the 809 participants who completed a baseline interview and for whom retention rates can be determined (Table 2), 727 (89.9%) have completed the study to-date; that is, they have either completed their follow-up period without being withdrawn from the sample or have too few follow-up interviews remaining to be at risk of being withdrawn. The PI has withdrawn 58 of these 809 participants because they missed three interviews, and 24 women elected to drop out of the study. If we assume that retention and attrition rates among the remaining 301 women will be the same as those for the 809 whose retention outcomes are known, an additional 271 women are projected to complete the study while 30 may not do so. Thus the total retention rate for the PREDICT study will be 85.0% (998/1174) of the eligible women who consented.

We have examined retention rates by race because the literature suggests that minority women may be less likely to complete a longitudinal study. As shown in Table 2, retention rates to date among White participants are significantly higher than among Black participants

(637/699, 91.1% vs 90/110, 81.8%, respectively; X^2 , 1 df = 9.05; $p=0.003$). However, retention rates for both groups of women are well above our initial expectations.

Discussion

We based our initial consent rate projections for the PREDICT grant on data from similar studies focusing on coronary heart disease (CHD) in women (DiMattio & Tulman, 2003; King, Aubert, & Herman, 1998) and on consent rates in our previous telephone surveys. In the studies, we examined reported consent rates of between 50–83%. Since most of those studies used in-person recruiting and recruited primarily White women, we estimated that we would achieve a 60% accrual rate. To calculate our actual accrual rate for this study, we focused on Arkansas only because research assistants at the Kentucky site consented all interested women before submitted their names to the project team. In Arkansas, we received contact information for 1043 potentially interested women. Of those, 105 were ineligible, leaving 964 eligible women. We consented 864, an 89% consent rate. Because of HIPAA regulations, it was impossible to collect any data on women who were not interested so this accrual number only reflects those who gave permission to have their names submitted to the research team. Clearly, the most problematic area for this study was obtaining names from the clinic sites, not the consent process.

Similar longitudinal studies of primarily White women with CHD (DiMattio & Tulman, 2003; King et al., 1998) have reported attrition rates of 25–27%, but these were shorter studies lasting from 6 weeks to 1 year. Because we planned to follow women for 2 years and to recruit Black women, we expected a higher attrition rate. Additionally, because CHD occurs typically around 66 years of age for women and the mean age of participants in our previous studies was in the mid-60s and they had multiple comorbidities, we expected the sample to be similar and estimated 15 deaths per year. Because we expected higher attrition rates than similar studies of shorter duration, we planned strategies to foster long-term retention, such as sending a gift card after every interview and obtaining permanent contact information at the time of consent. Therefore, we projected our attrition rate at 30%, slightly higher than the 25–27% reported in the previous studies (DiMattio & Tulman, 2003; King et al., 1998). In light of our estimated overall retention rate of 85%, we believe that our originally planned retention strategies and those added during the course of the study, such as “missing you” letters, and the excellent communication and rapport between the RAs and the participants have been very effective. Although retention has been significantly higher for White women than for Black women (91.1% versus 81.8%), retention in both groups has exceeded our projections, and retention rates in both groups are above the rule-of-thumb target of at least 80%. In light of the challenges of recruitment and retention in the context of HIPAA constraints on direct contact with potentially eligible patients, we encourage research teams to develop and deploy a range of strategies to enhance recruitment and retention and to be flexible in responding to unanticipated problems and changing situations.

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Women's Symptoms of Heart Disease

Join Us! Be a part of this important research study concerning symptoms women experience that may predict future heart disease. To learn more about this study, tell clinic personnel that you would like to talk to the research nurse at the clinic.

Study requirements:

- ♥ African American/Black or White women 21 years old or older.
- ♥ No history of heart attack or heart disease.
- ♥ Reliable phone.
- ♥ Willing to answer questions about your symptoms over the phone.

Study Specifics:

- ♥ Agree to be interviewed by phone for a total of 9 times over 2 years
- ♥ You set phone appointments convenient for you
- ♥ Does not require medication use
- ♥ Will not interfere or change your medical care
- ♥ Strictly confidential

YOU WILL BE COMPENSATED FOR EACH INTERVIEW UP TO A TOTAL OF \$185

- ♥ You may also contact Susie or Dr. Jean McSweeney at the UAMS College of Nursing for more information about this study.

Figure 1.
Recruitment Flyer

Table 1

Overview of PREDICT Enrollment and Retention To-Date

	Number	Percent of Eligible Women
Informed Consent	1203	
Found ineligible	29	
Eligible ^a	1174	100.0%
Withdrew before baseline	29	2.5%
Did not return HIPAA authorization	5	0.4%
Could not be contacted	30	2.6%
Completed Baseline Assessment	1110	94.5%
Retention not yet knowable ^b	301	25.6%
Retention known	809	68.9%

^a Although some of these women might have been found ineligible at baseline, we are being conservative by assuming that all were eligible.

^b Baseline participants who are currently active and have enough interviews remaining that it is possible for them to miss a total of 3 follow-up interviews and be withdrawn from PREDICT.

Table 2
Retention Rates Following Baseline Assessment To-Date, Overall and by Race

	Total		White		Black	
	Number	Percent	Number	Percent	Number	Percent
Retention known	809	100.0%	699	100.0%	110	100.0%
Dropped out	24	3.0%	16	2.3%	8	7.3%
PI withdrew	58	7.2%	46	6.6%	12	10.9%
Completed	727	89.9%	637	91.1%	90	81.8%