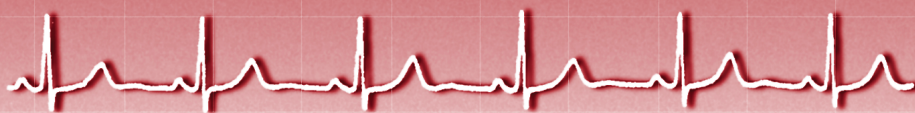


# The Framingham HeartBeat



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Winter 2007

## GENOMIC RESEARCH AT THE FRAMINGHAM HEART STUDY (SHARe Project)

Throughout history, technical inventions have been used to improve health. In ancient times, fire, blades, bandages, herbs and minerals were used. Later, use of microscopes, disinfectants, scientific organization of records, and then vaccines, X-rays, antibiotics, and computers added power to understand and counteract diseases. With the addition of each new tool, medical science advanced.

Now the tools of high speed computers and advanced biochemical and genetic techniques are available. After many years of preparation, researchers at the Framingham Heart Study (FHS) are ready to dig into vast fields of genetic information from FHS DNA and sift through mountains of data from over fifty years of FHS examinations with some of the newest methods. The hope is to find patterns within the extensive FHS three-generational data sets to unlock secrets of health and disease that previously were not clear. The possibilities for discovery are unprecedented.

In response to the expressed wishes of FHS participants, FHS genomic data are being organized and will be distributed to researchers by the National Heart, Blood and Lung Institute, Boston University and the National Library of Medicine. They have teamed up to create the SNP Health Association Resource (SHARe) project. *Please see the featured article in the 2006 newsletter or on the FHS web site, [www.framinghamheartstudy.org](http://www.framinghamheartstudy.org) for more details about the SHARe project.* Researchers, with the approval of both the SHARe project as well as the institutional review boards of their local universities and medical centers, will have access to the data by the end of 2007. Other genomic projects, such as CARE (Candidate gene Association Resource), are expected to follow using the data for specialized lines of research.

The dedication of the FHS participants make this research possible. The consent forms used at recent examinations have given each participant the means to indicate willingness to be involved in the genetic research of the Study. Each consent form has been coded and entered into a data base that is used to track individual choices. Most participants have elected to allow their genetic data to be included in this research. Every effort is being made to protect the confidentiality of the individual's information. *If you have any questions about the SHARe project or any other aspect of participation in the Framingham Heart Study, please contact your participant coordinator (see "To Contact Us" on page 2) or Maureen Valentino at 800-536-4143.* ♥

## OFFSPRING EXAM 8

The eighth examination of the Framingham Offspring Cohort will be coming to a close in December 2007. The exams are currently scheduled each morning, Monday through Friday. Since 2003, the

Framingham Heart Study has been at its new location in the Perini Building at 73 Mt. Wayte Avenue where there is ample parking space. If you have not scheduled a clinic visit yet, expect a call from us soon. We look forward to seeing you. **If you live out of town and are planning to visit the Framingham area soon, please call Maureen at 800-536-4143 so that she can arrange a clinic appointment for you.** ♥

## THE ORIGINAL COHORT IN ITS 58TH YEAR

The 29th biennial cycle of the Framingham Heart Study's Original Cohort will continue with examinations until the end of 2007. We see participants in the clinic or off-site at their homes or in nursing homes. For members who live too far away for us to visit, we keep in touch by telephone, doing health updates and keeping track of medical events that occur. The 5,209 members of the Original Cohort were between 30 and 60 years of age when the Study began in 1948. As this newsletter goes to press, **six** are over 100 years of age. Our youngest members are age **86**. Without these extraordinarily dedicated people, there would not have been a Framingham Heart Study. We cannot thank our Original Cohort and their families enough for their dedication. ♥

## OMNI COHORT GEN 1 TO BEGIN EXAM 3

Are you part of the first generation of Omni participants recruited in the 90's? We are starting our 3rd clinic exam cycle at the Framingham Heart Study in 2007 to continue through August, 2008. Paulina Drummond, Omni coordinator, will be calling the first group of Omni participants to schedule morning clinic visits. The clinic exam will be similar to the previous two exams. If you are part of the first generation of Omni participants and live outside of Massachusetts but plan to visit Framingham, please contact Paulina Drummond at 1-800-854-7582 ext. 485 or Maureen Valentino at 1-800-536-4143 to schedule an appointment at your convenience. The Framingham Heart Study is located at 73 Mt. Wayte Avenue in Framingham. ♥

## COMPLETING HEALTH UPDATES

Participants are asked to complete health history surveys once every two years by mail or by phone. In the survey we ask for information about your health since your last exam or health update. Lois Abel is in charge of collecting and recording the health history updates. Any new health information is reviewed by a panel of three physicians and becomes a valuable part of the database used for FHS research. Even if there has been no change in your health status, please complete and return the form when you receive it or call a participant coordinator (see contact phone numbers on Page 2) or Mary Anne Crossen at 800-854-7582 Ext. 430. ♥

## WHICH COHORT ARE YOU IN?

Here's a list of the six participant groups (cohorts) of the Framingham Heart Study.

- **Original Cohort** is the first group of participants of the Framingham Heart Study that started in 1948.
- **Offspring Cohort** is the second generation of FHS, children of the Original Cohort, who joined the Study between 1971 and 1975. This group also includes some spouses of the second generation participants.
- **Third Generation Cohort**, who were seen in clinic for the first time from 2002-2005, is made up of grandchildren of the Original Cohort.
- **New Offspring Spouse Cohort** is a group of parents of Third Generation participants seen in clinic for the very first time in 2002-2005.
- **Omni Cohort Gen 1** is a multicultural group of participants. Exam 1 for Omni Gen 1 took place from 1994 to 1998. Exam 2 for Omni Gen 1 took place from 1999 to 2001.
- **Omni Cohort Gen 2** includes children of the Omni Cohort Gen 1 and others from Framingham and neighboring communities. The first examination was given from 2003 to 2005. ♥

## NATIONAL INSTITUTES OF HEALTH ANNOUNCES NEW SCIENTIFIC INITIATIVE FOR THE FRAMINGHAM HEART STUDY

2006 was a year of exceptional scientific achievement for the Framingham Heart Study. Framingham investigators published nearly 100 research articles. Many of these reports appeared in the top medical journals and received national recognition. Dr. William Kannel, who joined the Framingham Heart Study in 1950 and remains an active investigator today, along with the Friends of the Framingham Heart Study, received special recognition at a gala tribute organized by the Framingham Historical Society. Last year also marked the initiation of the SHARe Project (SNP Health Association Resource), which is an ambitious project to study small alterations in DNA building blocks across the entire genome and relate these changes to common diseases and traits. An update on this project appears on page one of this newsletter.

2007 promises to be another historic year for the Heart Study. The National Institutes of Health recently announced in the Federal Register a project to measure large numbers of biomarkers and relate them to dis-

eases that we study. A biomarker is most commonly a protein or a molecule circulating in the blood, which we can study in relation to health conditions, such as heart disease, obesity, diabetes, and hypertension. Our new biomarker project will measure more than 150 biomarkers and relate them to these important conditions and diseases. Because of the size and scope of this project, which will cost millions of dollars, it may be necessary for us to establish partnerships with groups that have expertise in this research. One area we will explore is the creation of a public-private partnership. As with our SHARe Project, we plan to make the results of this biomarker project available to the entire scientific community with several levels of protection of the data in a manner that is consistent with your desires. We believe this study has the potential to identify new risk factors for cardiovascular disease and to promote development of future treatments to prevent cardiovascular disease. We will keep you informed about the progress of this project. ♥

## BRAIN AGING PROJECTS

Through three separately funded studies on stroke, dementia and brain MRI scans, the Framingham Study can focus on projects that may lead to reduction of risk for neurological disease and promote healthy cognitive aging. The stroke and dementia studies have been underway for over 30 years. The MRI, Genetics and Cognitive Precursors of Alzheimer's Disease and Dementia study was more recently launched in 1999, integrating advances in imaging and genetic technology to further advance our work on prevention of neurological disease.

In the initial cycle of this MRI study, over 2900 Framingham participants agreed to have both a brain MRI scan and tests of memory, perception and other cognitive abilities. We have found interesting links between cardiovascular risk factors and their possible impact on the brain. Because of the success of this project, the National Institute of Aging awarded another five years of funding to repeat the brain MRI and cognitive testing. We are currently in the second year of the study, and already over 1000 volunteers have participated. This MRI study has the potential to identify promising indicators associated with increased risk of cognitive decline and dementia, and offer preventive measures that would promote healthy brain aging. To learn more about this project, please contact Barbara Inglese at 508-935-3451. ♥

## BRAIN TISSUE DONATION PROGRAM

The Framingham Brain Tissue Donation Program has been open since 1997 to all Framingham Heart Study participants regardless of neurological health. Over 600 participants have enrolled. Brain tissue from over 100 deceased participants has been analyzed to confirm stroke, Alzheimer's Disease, Parkinson's or other neurological illnesses, provide diagnoses that were unclear earlier, discover unsuspected conditions or diseases or document the extent of disease. Comparing the brains of subjects free of neurological conditions with those of individuals with neurological disorders is extremely informative. We add to our knowledge during our participants' lifetimes with brain MRI scans, currently being offered to Offspring and Omni participants through our MRI study. An important goal of this program is to increase the chances of preserving cognitive function for the next and future generations. Postmortem analysis through the Brain Tissue Donation Program may benefit family members by providing a clearer picture of disease risk.

We are very interested in exploring environmental and genetic links and hope Heart Study members from all cohorts will choose to donate their brains for this important research. **If you would like to enroll or learn more about the Brain Tissue Donation Program, please contact Linda Clark, Research Coordinator, at 1-800-248-0409 or 508-935-3426 or e-mail her at [lindac@bu.edu](mailto:lindac@bu.edu).** ♥

## TO CONTACT US

We maintain several local and toll free numbers for our participants to reach us here at the Framingham Heart Study:

**Receptionist: 508-872-6562 or 800-854-7582.**

**Linda Clark: Original Cohort Coordinator, Brain Donation Program Coordinator: 508-935-3426 and 800-248-0409.**

**Maureen Valentino: Offspring, New Offspring Spouse and Third Generation Coordinator: 508-935-3417 and 800-536-4143.**

**Paulina Drummond: Omni and Omni Gen2 Coordinator: 508-935-3485 or 800-854-7582 ext 485.**

**Marian Bellwood: Participant Coordinator and Recruitment Supervisor: 508-935-3429 and 800-451-0260.**

If you leave a voicemail message, please include a good time for us to return your call.

Please call or write us if you have a new street address, telephone number (home, work, or cell) or email address. Thank you!





(L to R): Dr. William B. Kannel, Dr. Philip A. Wolf, Dr. Ralph B. D'Agostino and Dr. Daniel Levy

## HEART STUDY RESEARCHERS RECEIVE PRESTIGIOUS AWARDS

The Heart Study is proud to announce that Dr. William B. Kannel, Dr. Philip A. Wolf, Dr. Ralph B. D'Agostino and Dr. Daniel Levy, (left to right), senior investigators and leaders at the Framingham Heart Study, recently received international recognition in the field of cardiovascular science. Dr. Wolf and Dr. Kannel were honored as Distinguished Scientists by the American Heart Association/American Stroke Association (AHA/ASA). "This award is intended for a highly select cadre of prominent investigators...given on the basis of scientific contributions which have advanced the understanding and management of cardiovascular disease and stroke," said Allen Cowley, MD, FAHA, Chair of the Distinguished Scientist Committee. Dr. D'Agostino presented the prestigious Richard D. Remington Methodology Lecture at the American Heart Association 46th Annual Conference on Cardiovascular Disease Epidemiology and Prevention in March of 2006. Dr. Levy received the 2006 Distinguished Lecture and Prize in Cardiovascular Science from the Institute of Circulatory and Respiratory Health of the Canadian Institutes of Health Research (CIHR), the Canadian counterpart of the National Institutes of Health. This award recognizes outstanding national and international researchers for their extraordinary contributions to the advancement of cardiovascular sciences.

Dr. Kannel, Professor of Medicine and Public Health at Boston University School of Medicine (BUSM) and senior investigator at the Framingham Heart Study, has been active in the field of cardiovascular epidemiology for more than 50 years and credited with pioneering the Framingham Heart Study since 1949, along with Dr. Thomas R. Dawber. In 1966, Dr. Kannel followed Dr. Dawber as Director of the FHS.

Dr. Wolf is Professor of Neurology, Research Professor of Medicine at BUSM, and Professor of Public Health at Boston University School of Public Health. He has been Principal Investigator of the Framingham Heart Study since 1989. In 2002, after more than 30 years, he stepped down from the post of Chief of the Cerebrovascular Disease Section, Department of Neurology at BUMC.

Dr. D'Agostino has been affiliated with the Framingham Heart Study since 1981 and is presently Co-Principal Investigator of the Core contract and Director of Data Management and Analysis for the entire study. He is Professor of Mathematics, Statistics, Public Health and Law, Chair of the Mathematics and Statistics Department and Director of the Statistics and Consulting Unit at Boston University.

Dr. Levy joined the Framingham Heart Study in 1984 after completing his cardiology fellowship at Harvard's Brigham and Women's Hospital and Harvard School of Public Health. He is a Medical Officer of the National Heart, Lung, and Blood Institute, Professor of Medicine at Boston University School of Medicine and has been Director of the Framingham Heart Study since 1994. ♥

## REPORTING TEST RESULTS

Many research measurements at the Framingham Heart Study are not useful for patient care and therefore are not reported to our participants. Occasionally, however, we receive results that should be reported to you and your doctor. When tests are performed for research and not for medical use, they may have been done by non-standard procedures, different than the tests obtained through your doctor's office. If you do receive a letter from us about a test result, please discuss it with your doctor to decide if there is any need for further testing or other follow up. ♥

## DAWBER MEMORIAL SCHOLARSHIP

In memory of Dr. Thomas R. Dawber, Director of the Framingham Heart Study from 1949 to 1966, the Friends of the Framingham Heart Study plan to award a \$1,000 scholarship to a deserving high school senior upon graduation. The Friends are sponsoring a contest open to all children of Framingham Heart Study participants who will be graduating from high school in the spring of 2007 and going on to college.

The prize will be awarded to that student whose essay of 1,000 words is judged the winner of the competition. The topic of the essay is "What It Means to be a Participant in Medical Research". Essays should be sent as a word document attached to an e-mail to Esta H. Shindler **no later than April 5, 2007** at [eshindle@bu.edu](mailto:eshindle@bu.edu). Included in the e-mail message should be college and career plans after graduation, as well as name, address, and phone number.

Last year Mr. Ryan Sherman received the Dawber Memorial Scholarship. Portions of his deserving essay read as follows:

"I believe my situation is unique and I am proud of it. My parents grew up at opposite ends of the town of Framingham yet both sets of my grandparents were selected and agreed to participate in the first generation of The Framingham Heart Study. Back in the late forties most Americans smoked a lot and cared little about diet and exercise. While doing studies about the possible links to these lifestyle choices, scientists were able to discover links to heart problems which led physicians and patients to make wiser choices. I am impressed that my grandparents were wise enough to recognize the importance of the study and how it could potentially increase longevity and save lives. As a result of my grandparent's contribution, physicians today are now able to recognize if someone is in danger of a heart attack or stroke with a few simple tests and measurements...

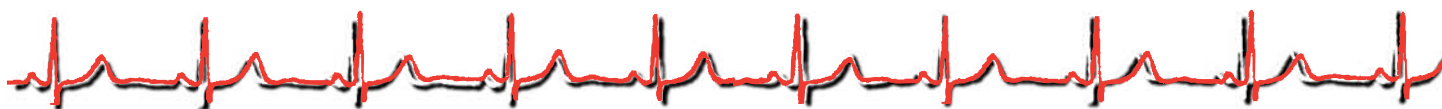
My mom, dad, aunts, uncles, and cousins are second and third generation Heart Study participants. They faithfully continue to attend routine exams along with special eye studies, sleep studies and MRIs. The DeSimone family data reveals that there is a pattern of high cholesterol as represented by the tests, in four out of six of my aunts and uncles. My sister and I now know that we need to have our blood checked for that problem and therefore are bound to benefit from the sharing of this important family history. It's inspiring to think that my grandparents were able to see the benefits of participating in a study like the Framingham Heart Study. The Framingham Heart Study has not only greatly advanced cardiovascular medicine and treatment in the last century but also directly effected all subsequent generations of my family..." ♥

Trustees of Boston University  
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Framingham Heart Study

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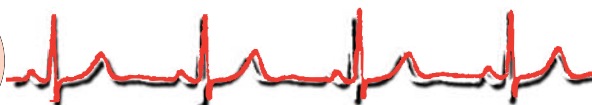
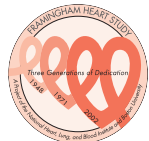


**WWW.FRAMINGHAMHEARTSTUDY.ORG,  
CHECK US OUT ON THE WEB**

The Framingham Heart Study welcomes your comments and suggestions regarding the website. Please contact Esta Shindler by e-mail at [eshindle@bu.edu](mailto:eshindle@bu.edu) or by phone at 508-935-3434

**FRAMINGHAM HISTORICAL SOCIETY &  
MUSEUM HONORS HEART STUDY**

On December 3, 2006, at its annual gala, the Framingham Historical Society and Museum awarded to Dr. William B. Kannel the "2006 Community Appreciation Award". Dr. Kannel was the second Director of the Framingham Heart Study and is recognized as an early pioneer of the FHS. The "2006 Business Recognition Award" was presented to the Friends of the Framingham Heart Study. Formed in 1991, the Friends is a community-based organization that provides supplemental support for the research activities of the Heart Study and advocacy for the participant population. It is a non-profit organization supported solely by donations. Donations can be made c/o Esta H. Shindler, Friends of the Framingham Heart Study, 73 Mt. Wayte Avenue, Framingham, MA 01702-5827. ♥



**OUR DATA GROUP**

The Data Group at the FHS makes sure information gathered during exams is entered into the database twice, matched for accuracy and screened through logic checks for completeness and precision. An equally, if not more, important part of the job is to ensure that consent wishes of participants are implemented and confidentiality is protected. Karen Mutalik, Manager of the Data Group, is supported by Sue Blease, Walter Briggs, Sherry Colella, Diane Corey, Catherine D'Augustine, Kathy Dee, Tamara Koelle, John Leary, Yulin Liu, Ellen Martin, Galina Medvedev, Ken Nieto, Lina Rekstyle-Sims, Xingtai Wang and Mary Wienke. Once new data are put in useful order, they become part of our very large Framingham Heart Study research data base. ♥

