

## **Current Research**

The following is a list of research that has been or is currently being conducted at the NewYork-Presbyterian Hospital Preventive Cardiology Program/Columbia University Medical Center.

### **Cardiac Caregiver Study**

The Preventive Cardiology Program was awarded an NIH grant (2RO1 HL075101-05A1) in the summer of 2009 to conduct a 2-year study to evaluate the prevalence and characteristics of cardiac patient caregivers and the association between cardiac caregiving and patient outcomes after hospital discharge. Cardiac caregivers such as family members and friends who assist cardiovascular disease patients with their daily activities may represent an important opportunity to disseminate preventive strategies to reduce the burden of cardiovascular disease. Caregivers themselves may be at increased cardiovascular disease risk, because they may be family members who share genes or lifestyle habits with the cardiac patient, or forgo their own prevention behaviors to take care of the patient. Through this cardiac caregiving research we aim to learn more about the prevalence of cardiac caregiving, the characteristics of patient caregivers, and the impact that having a caregiver has on patient health after discharge. This information will aid us in developing future cardiovascular disease prevention and education programs for patients and their caregivers.

### **Effectiveness of a Family Heart Health Intervention Trial**

The Effectiveness of a Family Heart Health Intervention Program was an NIH study (1 RO1 HL 75101) of family members of individuals with atherosclerotic cardiovascular disease who are at increased risk of vascular events due to shared genes and lifestyle. The Family Heart Health Intervention Trial was a 1-year randomized controlled clinical trial among family members or cohabitants visiting patients at NewYork-Presbyterian Hospital with a diagnosis of an acute coronary syndrome or coronary revascularization procedure. Participants without cardiovascular disease were randomly assigned to a control group that received general health messages about lifestyle and CHD prevention (N=250) or a special intervention (SI) group (N=251) that received personalized CHD risk factor assessment, lifestyle counseling and education with regular follow-up by a prevention counselor and progress reports to primary physician(s). The research tested the hypothesis that specific information about personal CHD risk and individualized instruction to lower risk delivered at a "teachable moment" will result in greater adherence to national CHD prevention goals and is cost-effective relative to a brief non-personalized intervention. The main results from this trial were published in November 2008 in *Circulation: Cardiovascular Quality and Outcomes* (2008;1: 98-106). Data analysis for this trial is ongoing. Current projects include evaluating cost-effectiveness of the SI relative to the control intervention and identifying demographic and psychosocial modifiers of program effectiveness.

### **Applied Research in Preventive Cardiology**

The Applied Research in Preventive Cardiology grant is a research career and mentoring award to Dr. Mosca by the National Institutes of Health (K24 HL76346 ). The proposed research will test the impact of an intervention targeted to individuals that are classified as high risk due to established CVD or diabetes based on the National Cholesterol Education Program Adult Treatment Panel III Guidelines. The design is a 1-year study of 370 family members or visitors of patients admitted to New York Presbyterian Hospital or hospital employees. Participants were screened for traditional CVD risk factors, ankle brachial index, and carotid plaque. Enrollment of participants was completed in February 2009. Follow up questionnaires will be mailed to participants 1-year after initial screening to evaluate 1) whether the screening prompted them to take preventive actions (e.g. following up with a doctor appointment or obtaining additional screening), 2) what barriers to prevention they are currently experiencing, and 3) If they did take preventive actions after screening, what motivated them to do so.

### **Passport To Heart Health**

The Family Passport To Heart Health Program is an ongoing patient service and clinical research study targeted to family members and visitors of patients admitted to our hospital with CVD. Clinical and research program staff provide a traditional risk factor screening and educational intervention with the goal of improving awareness of CVD risk and adherence to national prevention guidelines including heart healthy lifestyle behaviors. The program was established to provide comprehensive quality preventive care for patients by extending care to family members at risk of CVD events due to shared genetic risk and lifestyle during a “motivational moment”. Educational materials were created in English and Spanish, pilot tested, and revised. Program staff recruits family members in the waiting rooms located adjacent to the coronary care unit and cardiothoracic intensive care unit. They also distribute pamphlets to hospitalized patients to invite family members to be screened and educated at no charge. Physicians and nurses in the hospital have received in-services about the program and assist with recruitment. Participants complete a baseline questionnaire and are told that they will be re-contacted at regular intervals to determine clinical status and change in lifestyle behaviors.

Passport offices are located near the family waiting rooms making it convenient for family members to be screened while they are waiting during visiting hours. The screening and educational visit takes approximately 30 minutes to conduct. The screening includes standard measurement of total and high-density lipoprotein (HDL) cholesterol using a 5 minute fingerstick technique, blood pressure measurement, body mass index (BMI), waist circumference, lifestyle habits, glucose (if fasting) and calculation of Framingham risk score. The Passport to Heart Health Program has been extended to other settings as well. For example, in the wake of the World Trade Center Disaster, our program staff set up a mobile screening unit for victims and families of the tragedy to identify those who might be at increased risk of a CVD event.

### **US Cohorts Pooling Project**

The US Cohorts Pooling Project is an ongoing secondary analysis project that has been supported by the NHLBI through a Mentored Clinical Scientist Development Grant (K08 03681) and through a Grant-In-Aid from the American Heart Association (#97500703N). The purpose is to evaluate ethnic and gender differences in CVD risk among participants of long-term epidemiological studies with at least 1000 women and 8 years of follow-up data. Cohorts that contributed data to the study are the Atherosclerosis Risk in Communities (ARIC) Study, the Charleston Heart Study, the Evan's County Study, the Framingham Heart Study and the Offspring study, the NHANES Follow-up Study, the Rancho Bernardo Study, the San Antonio Heart Study, and the Tecumseh Study. The advantages of the pooling project are the long-term follow-up, ethnic diversity, and ability to examine rare events (e.g. stroke mortality) that have limited power in individual cohort studies. For example, data was generated from the pooling project to test the validity of Framingham risk functions in diverse populations.