

THE BEAT

News and information for participants in the PRE-DETERMINE Study

PRE-DETERMINE investigators publish first findings!

The PRE-DETERMINE Study was designed to identify how often sudden cardiac death occurs in patients with stable coronary heart disease, and which patients are at greatest risk. The first key findings from the study, which included 5,761 men and women with coronary heart disease, were reported by the PRE-DETERMINE Study Group in the July 1, 2018 issue of the *Journal of the American Medical Association (JAMA) Cardiology*.

In this first look, researchers found that slightly more than two percent of the study population experienced a cardiac arrest or sudden cardiac death during an average follow-up period of four years, a statistic that translates to a rate of one-half of one percent per year. The good news is that sudden cardiac death was a relatively rare occurrence. However, sudden cardiac death was the most common type of death from heart disease in the study population, accounting for one-fifth of all deaths. In those who were younger than age 60 years at the start of the study, approximately half of all deaths were sudden cardiac deaths.

As the researchers expected, most of the sudden cardiac deaths were the result of a dangerous rhythm in the lower chambers (ventricles) of the heart that stopped the heart from beating effectively (cardiac arrest).

Thus, these findings highlight the need for additional research on preventing or treating these dangerous rhythm disturbances in order to reduce the risk of death among patients with coronary heart disease.

At present, the primary method used to prevent sudden death from these rhythm disturbances is to implant an implantable cardioverter defibrillator (ICD), a device that continuously monitors the heartbeat and delivers electrical shocks to restore a normal heart rhythm. To benefit from an ICD, patients need to be at high risk of dying suddenly from a dangerous heart rhythm disturbance as opposed to dying from some other cause.

Therefore, study investigators also examined whether cardiac risk factors routinely obtained as part of a patient's medical history and evaluation could be used to identify those who were at a high risk of dying suddenly. The investigators found that measures commonly used by doctors to classify how well a patient's heart pumps blood could be used to identify a group at high risk of sudden cardiac death. However, these measures also predicted an increased risk of other types of death that would not be preventable by an ICD. The findings

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From the
**PRE-DETERMINE
Study
Investigator**

Dear PRE-DETERMINE participant,

Thank you for your dedication to the PRE-DETERMINE Study.

Because of your continued commitment, we are now beginning to test whether newer approaches might be able to identify patients with a history of coronary artery disease or myocardial infarction (heart attack) who are at high risk for experiencing sudden cardiac death from a heart rhythm disturbance. The study is expected to provide findings that will be important in identifying new strategies to prevent sudden cardiac death.

As a small token of our appreciation, we have enclosed a gift—a keychain with attached flashlight—in this newsletter mailing.

We very much appreciate your commitment to the study and the time taken to complete our questionnaires every 6 months via mail or telephone. Please note that even if there are no changes in your health from questionnaire to questionnaire, your response is still very important to us.

Updating contact information for at least one relative or friend whom we can call, e-mail, or write to in the event that we are unable to reach you is also vitally important. Contacts are a key resource to ensure important study data is collected in a timely fashion. Please inform, and periodically remind, your designated contact(s) of your participation in the PRE-DETERMINE Study. We appreciate these efforts as well!

If you have any questions about the study, please let us know (see page 2 for our contact information). **Thank you for making the study a success!**

Christine M. Albert, MD, MPH
Visiting Professor of Medicine
Harvard Medical School
Brigham and Women's Hospital

Participant Perspective

Participant **Scott B.**, of Kentucky, pictured on the left, writes, “I had a myocardial infarction (heart attack) in July 2011 and required 4 stents, at the age of 48. I did not apparently have any of the traditional identifiable risk factors and had been physically very active in athletics all of my life. The cardiology care that I received was excellent and helped me not just to manage coronary artery disease, but to still thrive in my personal and family life. Contributing to the research that can help those of us who have coronary artery disease to live longer and robustly is why I unreservedly joined the PRE-DETERMINE study. Since having the stents, I continue to work full time as a physician and recently completed a masters program in management. My spouse and I love to travel, and a few of our recent trips include going to Antarctica, Cuba and Peru to hike the Inca trail to Machu Picchu, reaching 13,700 feet at the summit. The wonderful care provided by knowledgeable and caring cardiology physicians, like those running the PRE-DETERMINE study, have contributed greatly to my life. Thank you for your efforts in this meaningful research.”



Participant **Carol E.**, of Illinois, writes, “I am very pleased to be a part of the PRE-DETERMINE Study. Being a former teacher, I’m always interested in research which solves problems. When I became a victim of heart disease, I was excited to be a part of the study regarding heart issues. I truly believe that only through such programs and patient involvement will doctors and other scientists be able to determine how to help women and men resolve their heart problems and live longer healthier lives.”



We are interested to learn what motivated you to join the study. Please let us know by writing to predetermine@research.bwh.harvard.edu or the postal address in the box to the right—and feel free to include your photo, along with a brief note stating where the photo was taken. A sampling of responses and photos will be included in a future newsletter. (Please note that high-quality digital photos are preferred and that no photo will be published without the written consent of the participant. Published photos will include first name, last initial, and state of residence.)

Announcement

We are proud to share with you that Dr. Christine Albert, Principal Investigator of the PRE-DETERMINE Study, will become President of the Heart Rhythm Society in May 2020. The Heart Rhythm Society is an international nonprofit organization that represents medical and science professionals who specialize in cardiac rhythm disorders. Its mission is “to improve the care of patients by promoting research, education, and optimal health care policies and standards.” Its vision is “to end death and suffering due to heart rhythm disorders.”

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highlight the importance of searching for new tests, including blood-based biochemical and genetic markers, that may identify those who are at risk for dying specifically from sudden cardiac death rather than from other causes.

The PRE-DETERMINE investigators are currently working on identifying such markers. Should they be successful, such an advance would represent an important first step in developing new strategies for the prevention and treatment of life-threatening rhythm disturbances and sudden cardiac death.

PRE-DETERMINE STUDY

900 Commonwealth Avenue, Floor 3
Boston, Massachusetts 02215
Phone: 877-718-8003 (toll free)
Fax: 617-277-0198

E-mail: predetermine@research.bwh.harvard.edu
Web: www.pre-determinestudy.org

