



Medical Education and Research Grant Outcome Report

Name: Improving Cardiovascular Risk Prediction Using Hand-Held Carotid Ultrasonography

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Department: Medicine

Program: Collaborative Health Sciences Program

Grant Duration: 09-01-2007 to 12-31-2009 (28 months)

Expenditures: \$283,434 (99%)

Use of Funds (Taxonomy): Type 2 Translational Research

Research Keywords: Atherosclerosis; Cardiovascular Disease; Risk factors; Community research; Carotid Arteries

► **Description:** Hand-held carotid ultrasonography detects thickening of the walls of the carotid artery in the neck, which can predict cardiovascular disease (CVD). This technology is in use at UW Health, but was unavailable to community physicians. This project sought to train community practitioners in this technology and introduce it into community health settings. In addition, it studied whether greater availability of this diagnostic technology would lead to greater adoption of evidence-based interventions, and whether it would motivate patients to adhere to prevention regimens.

► **Contributions/Results:** The project met its goal of transferring state-of-the-art risk prediction and management techniques to community health settings. The investigators trained physicians and other health care professionals in Watertown, Waukesha, Fort Atkinson, Janesville, and Whitewater to perform ultrasound studies to measure carotid wall thickness. This demonstrated that community physicians are able to deploy this technology.

When abnormal thickness was observed, physicians improved patient education and prescribed preventive therapies. After 30 days, more than a third of the 355 middle-aged patients with risk factors for CVD reported increased exercise frequency and weight loss. Some 62 percent reported having made dietary changes. However, the effects of ultrasound abnormalities on patient behaviors were less dramatic than on physicians.

► **Met Objectives:** Project completed

► **Timeline for Application of Results:** Less than three years.

► **New Partnerships or Collaborations:** The project forged new collaborations with the five practices who participated in the study. It also improved the quality of CVD prevention services at these practices. For future projects there is now a network of trained community clinicians.

► **Matched Dollars (cash or in-kind):** \$235,000 from Sonosite Inc, which provided the ultrasound equipment and helped fund the research.

► **Dissemination:** This project received extensive media coverage, locally, nationally, and internationally. An Associated Press reporter covered the training in 2007, and her story was picked up in outlets around the country. Regionally, stories appeared in The Capital Times and Milwaukee Journal-Sentinel. Stories also ran in media outlets in Canada, India, and China. Abstracts of the research findings were presented at the Annual Scientific Sessions for the American College of Cardiology in 2010. A manuscript describing the results is under review for publication at a prominent medical journal.

The tools and training methods developed for this project now are incorporated in training provided by three times annually by the UW Atherosclerosis Imaging Research Program to health practitioners on how to predict cardiovascular risk in clinical practice.

► **Additional Funding:** None