The Atherosclerosis Risk in Communities Study (ARIC) is an ongoing epidemiologic study sponsored by the National Institutes of Health (NIH). For the past 30 years, findings from ARIC have advanced the medical community’s understanding of heart, kidney, and brain health. ARIC data have been used in more than 2,000 medical research articles, many in top journals!

Below are highlights of some recent findings from ARIC. Full citations are provided on the back of this page.

**Prediction of cardiovascular events:**
- A healthy lifestyle and controlling one’s risk factors, as recommended by the American Heart Association, lowers risk of developing coronary heart disease and heart failure.\(^1,2\)
- More than 80% of coronary heart disease can be accounted for by traditional risk factors such as smoking, low exercise, high blood pressure, or diabetes, both in African Americans and whites.\(^3,4\)
- Simple computer-based equations were developed that doctors can use to identify patients more likely to develop coronary heart disease,\(^5,6\) stroke\(^7\) or atrial fibrillation.\(^8\)

**New risk factors for cardiovascular and other diseases:**
- New markers of high blood sugar are strongly related to cardiovascular disease risk, and using hemoglobin A1c and fasting glucose together can improve diabetes diagnosis.\(^9,10\)
- Cardiac troponin is a marker of heart muscle damage, and BNP is a marker of heart muscle stretch. Both were associated with risk of developing cardiovascular disease.\(^11-14\)

**Risk factors for dementia**
- Cardiovascular risk factors measured during middle-age are associated with risk of developing dementia in older age.\(^15\)
- Higher levels of cardiovascular risk factors are associated with deposition of beta-amyloid in the brain, a marker of Alzheimer’s disease.\(^16\)

**Risk factors for other health outcomes**
- ARIC has also worked on identifying risk factors for other diseases, such as: abdominal aortic aneurysm,\(^17\) peripheral artery disease,\(^18\) hypertension,\(^19\) chronic kidney disease,\(^20\) silent stroke detected by MRI,\(^21\) retinopathy,\(^22\) echocardiographic findings,\(^23\) venous thrombosis,\(^24\) diabetes,\(^25\) cancer,\(^26\) and weight gain.\(^27\)

**Genetic ties to health and disease**
- ARIC was the first to sequence a region in the PCSK9 gene on a large population.\(^28\) Based on this finding, a medication was developed to help prevent coronary heart disease.
- Among African Americans, sickle cell trait was associated with increased risk of chronic kidney disease\(^29\) and pulmonary embolism risk.\(^30\)

**Clinical practice guidelines**
- ARIC data have informed many medical guidelines, which help doctors provide the best possible care for conditions such as hypertension and high cholesterol.

To learn more about the ARIC study’s most important discoveries, visit our website at aricstudy.org.
Literature Cited


