



# ARC BITE

Brokering Innovation Through Evidence

**Simple Trial-based approach for identifying CVD risk**



## Results

The HOPE-3 trial approach identifies those at intermediate risk of CVD in an ethnically diverse population using simple clinical characteristics.

## Who needs to know?

GP Practitioners, Cardiologists,  
Primary Care Commissioners



## What did we do?

This was a post hoc analysis on the basis of prospectively acquired data in the Heart Outcomes Prevention Evaluation (HOPE) 3 trial. We calculated the 10-year absolute predicted cardiovascular risk for all participants in the HOPE-3 study using the pooled risk equations endorsed by the ACC/AHA algorithm and the global Framingham Risk Score using information on risk factors collected at baseline in HOPE-3 participants.

## What we found and what does this mean?

A simple pragmatic trial-based criteria used in HOPE-3 trial can therefore be used to implement a simple strategy to identify people who might benefit from multifactorial intervention of statins instead of using accepted CVD risk algorithms. This study also showed that there were beneficial effects for statin therapy across a heterogeneous group of participants and irrespective of baseline risk. In fact, the proportional risk reduction was similar across baseline risk categories including ethnicities.

Overall, using both risk algorithms overestimated the risk and this has been observed in previous studies. This calls into question the use of complex risk algorithms when a simple pragmatic strategy using readily available characteristics without the need for blood tests could be used to identify individuals.

## How did we involve people?

This study was an assessment of existing trial data that didn't involve direct contact with participants. It reflected an identified priority amongst clinicians for a simple trial based approach to identifying CVD risk amongst a multi-ethnic population.

## What next?

The simple pragmatic approach as used in the HOPE-3 study, identifies people at intermediate risk who are likely to benefit from statin therapy. This approach also identifies intermediate-risk ethnically diverse patients for primary prevention using simple phenotypical characteristics and medical history without the need for complex risk assessment tools and using limited laboratory testing. This approach has global implications on implementation of programs for primary prevention of CVD.

## What is NIHR ARC EM?

NIHR Applied Research Collaborations (ARCs) support applied health and care research that responds to, and meets, the needs of local populations and local health and care systems. We do this by working collaboratively with our partners and patient groups to bring the best applied health and care evidence into practice.

## Evidence

Khunti K, Jung H, Dans AL, Held C, Dagenais GR, Yusuf S, et al. Statin Use in Primary Prevention: A Simple Trial-Based Approach Compared With Guideline-Recommended Risk Algorithms for Selection of Eligible Patients. *Canadian Journal of Cardiology*. 2019;35(5):644-52. <http://dx.doi.org/10.1016/j.cjca.2019.03.002>