Reviewer's report

Title: Update on the NCEP ATP-III Emerging Cardiometabolic Risk Factors

Version: 1  Date: 14 April 2014

Reviewer: Matthew F. Muldoon

Reviewer's report:

This qualitative review deals with an important clinical topic – the evidence base and current clinical utility of “emerging cardiometabolic risk factors.” My comments are all "qualitative." Each falls under a single common theme; each requires a response.

1. Generally, the manuscript deals rather informally with the relevant literatures. By that I mean the text comments upon supporting and non-supporting research with no apparent method for prioritizing research or determining the kinds of studies most needed to establish the clinical utility of each considered risk factor. For example, mention of measurement reliability is made just once, and cost and general clinical availability are not considered. For example, ABI is a simple, very widely available and inexpensive test whereas CIMT has many varied and specialized methodological issues. This review leaves ABI out entirely and does not consider many of limitations to CIMT as a clinical measure.

2. The key evidence of the utility of a new risk factor is its ability to improve prediction above and beyond current multivariate prediction. So, studies like that of Yeboah (ref 74) where the improvement in ROC characteristics of most of the current “emerging risk factors” are compared should be emphasized over most other epidemiologic studies. In this regard, I refer the authors to 3 important papers not part of their review – Lloyd-Jones Circ 2010;121:1768, Tzoulaki et al JAMA 2009;302:2345, van den Oord et al Atherosclerosis 2013;228:1-11.

3. It is worth pointing out that the need here is for improved prediction in primary prevention among patients considered to be at intermediate risk. High risk patients likely warrant statin and ASA, and low risk do not. But separating the millions of intermediate risk patients into those destined to get premature ASCVD and those not would be a tremendous aide to clinicians and avoid the huge costs of prescribing lifelong statins and ASA to all intermediate risk patients.

4. Were this review to be more thoughtful and methodical, it will still need to distinguish how it adds the very thorough review of many of these issues within the new US cholesterol guidelines. I will concede that the 2013 guideline report does not feature its systematic review of these biomarkers and that their conclusions and recommendations tend to get lost in the very long document. Therefore, clinicians could use a more accessible digest of the 2013 systematic review.
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.