COMMENTS AND RESPONSES

Comment on: Alssema et al. One Risk Assessment Tool for Cardiovascular Disease, Type 2 Diabetes, and Chronic Kidney Disease. Diabetes Care 2012; 35: 741–748

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Alssema et al. (1) recently reported a novel prediction score for cardiometabolic risk among white European adults. Unlike the many available validated models that separately predict cardiovascular disease, type 2 diabetes, or chronic kidney disease, their model predicts the occurrence of any of these three outcomes. This approach acknowledges one of the challenges faced by all primary care providers: how to screen for the risk for multiple conditions in a time-limited setting (2). Moreover, because the authors included only predictors that can be self-reported, such as family history, smoking status, and BMI, this model may have utility in population-based screening outside of the clinical setting.

The authors correctly point out that the next step in applying this model to risk identification at the individual or public health level will be its validation in other cohorts. As with any prediction model, it will be important to assess whether the performance of this model, in terms of its sensitivity and specificity, might be optimistically overestimated in the cohort in which it was derived. I also recommend that the authors validate their model in a longitudinal cohort using a time-to-event analysis such as Cox regression instead of logistic regression (3). In the analyses by Alssema et al. in the Rotterdam, Hoorn, and Prevention of Renal and Vascular End-stage Disease (PREVEND) studies, about 22% of eligible study participants did not have follow-up information on the outcomes of interest. It is unknown whether this loss to follow-up introduced bias to the study's results. A longitudinal study with multiple serial assessments for the outcomes would allow such losses to follow-up to contribute some person-time to the analyses. In this way, model performance would be less biased, even with the same cumulative loss to follow-up.

If other studies, including those in other race/ethnic groups, validate this work, it might be a useful first step in screening for cardiometabolic disease in the primary care setting, where getting a three-for-one deal on preventive care would be a welcome occurrence.

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References

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