

LETTERS—CONCISE RESEARCH REPORTS

Race Effects in CVD Prediction Models

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To the Editors:

We read with interest the article by Paulus et al. entitled “Effects of Race Are Rarely Included in Clinical Prediction Models for Cardiovascular Disease,” published in the *Journal of General Internal Medicine*.¹ The authors examined the use of race/ethnicity in clinical prediction models (CPMs) for the management of cardiovascular disease (CVD). Their report described the paucity with which race/ethnicity is used in CPMs and the potential association with harmful decision-making in minorities. We fully support their statements.

However, we would like to emphasize the persistent challenge in dealing with race as a predictor of disease for researchers and clinicians. Until the turn of the century, there were no risk prediction tools based on predominantly minority samples. Clinicians depended on the majority-Caucasian Framingham and Cardiovascular Heart Studies.² While the American Heart Association and American College of Cardiology produced a race-specific CPM for the atherosclerotic cardiovascular disease (ASCVD) predictor, many generalists continue to exercise caution with race-directed approaches to care, uncertain of how to apply this information.³

We believe the concern should not merely be *how* to use race in CPMs but *why* racial minorities have been regularly excluded. The issue of representation is important. Many studies describe the impact of clinical trials on CVD management, yet these trials, like the studies developing CPMs, rarely include minorities, who are often disproportionately affected by the disease.^{4, 5} The exclusion of race from care-directed tools, whether a CPM or a novel therapeutic, limits the generalizability of these tools, resulting in the suboptimal care of minorities.

Nevertheless, care must be taken when considering race in the context of CPMs and decision-making. In an increasingly diverse nation, the impact of race can be broad and difficult to address with a point on a CPM. To date, the evidence is scarce describing racial differences by genetics that may explain disparities in CVD outcomes and make race an informative

predictor. Furthermore, the cultural context, preferences, and social determinants that surround each individual patient before they reach the clinic, along with provider-related factors that may influence management decisions, can hardly be fully captured in a CPM. Finally, researchers have shown that the assessment of risk may not ensure that minority patients ultimately receive guideline-based care.⁶

As the health care system progresses toward prioritizing precision medicine in disease management through tools such as CPMs, we must ensure that historically vulnerable populations are not left behind, resulting in widening rather than reducing disparities.

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