LETTER TO THE EDITOR

# The Need to Include COPD as Cardiovascular Risk Modifying Factor in the Framingham Risk Score, ASCVD Risk Score and PREVENT Risk Calculator: A Call Based on the 2025 GOLD Guidelines

*La necesidad de incluir la EPOC como factor modificador del riesgo cardiovascular en las escalas Framingham, ASCVD y PREVENT: un llamado desde las guías GOLD 2025*

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**Dear editor,**

Chronic obstructive pulmonary disease (COPD) has traditionally been conceptualized as a pulmonary disease closely linked to smoking and characterized by chronic airflow limitation. However, over the past two decades, a growing body of evidence has revealed that COPD is much more than a lung disease. It is a systemic disorder with significant implications for cardiovascular health. (1) In this context, the recently updated GOLD 2025 guidelines (2) propose a paradigm shift, explicitly recognizing COPD as a relevant cardiovascular risk factor. This raises an urgent need to adapt our cardiovascular risk assessment tools, such as the Framingham and ASCVD risk score, and the PREVENT risk calculator. (3-5)

The link between COPD and cardiovascular disease is not unknown. Longitudinal studies have consistently shown that patients with COPD have an elevated risk of major cardiovascular events, including acute myocardial infarction, heart failure, and sudden cardiac death. (5) This risk is independent of traditional risk factors such as hypertension, dyslipidemia, or diabetes mellitus, and appears to be mediated by pathophysiologic mechanisms specific to COPD, such as chronic systemic inflammation, endothelial dysfunction, intermittent hypoxia, and oxidative stress. The concurrence of COPD and cardiovascular disease has been demonstrated to result in increased morbidity and mortality, as well as complications in the clinical management and quality of life of patients. (2,6-11)

Despite this clear association, the cardiovascular risk scores most commonly used in clinical practice do not consider COPD as a predictive variable. The Framingham Risk Score is a widely used tool that takes into account traditional variables such as age, sex, total cholesterol and HDL, systolic blood pressure, antihypertensive treatment, smoking habits, and diabetes. Although the ASCVD risk score developed by the ACC/AHA takes into account ethnic and treatment factors, it does not consider respiratory comorbidities such as COPD. (4) The most recent PREVENT risk score also fails to consider this issue. (6)

The new 2025 GOLD guidelines offer robust clinical and epidemiological monitoring to reconsider this omission. In their new classification of COPD phenotypes and redefinition of risk, the guidelines emphasize that COPD increases cardiovascular risk, even in the absence of traditional factors. The predominant emphysema phenotype, frequent exacerbations, and coexisting hypoxemia are particularly highlighted as indicators of elevated cardiovascular risk. (2, 10-12) The omission of COPD in risk scores has tangible clinical consequences. A significant number of patients are underestimated in terms of their actual risk, which can result in a lack of indication for preventive therapies. These include the use of statins, antiplatelet agents, or renin-angiotensin system inhibitors, all of which have been proven to be beneficial in patients with high cardiovascular risk. This underestimation also affects decisions about intensifying blood pressure control or strategies for smoking cessation. (13,14)

Certainly, the aim is not to abandon existing tools but rather to complement them. Just as type 2 diabetes or chronic kidney disease are recognized as equivalents of cardiovascular risk, we propose that

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COPD—particularly in moderate to severe stages—be considered a relevant risk modifier, at least until predictive models are recalibrated to include this variable.

One possible path for this integration is the external validation of existing scores in cohorts of COPD patients, analyzing their discrimination ability and calibration. Validation studies could establish adjusted cut-off points or specific risk coefficients for COPD patients, as has been done previously with other clinical conditions. Multicenter research should be promoted to incorporate respiratory variables into cardiovascular risk prediction and develop specific or modified risk scores. Modern medicine is moving toward precision and personalization. Ignoring the interaction between organs and systems perpetuates a reductionist view of health. Including COPD as a cardiovascular risk factor in our clinical tools is not only a matter of scientific justice, but also a concrete action to reduce preventable events in a vulnerable population. As a medical community, there is an obligation to update our practices in accordance with emerging evidence.

Given all that has been mentioned, we urge scientific societies, guideline developers, and clinical scale builders to promptly update cardiovascular prediction tools to include COPD as a risk-modifying variable, in accordance with the GOLD 2025 guidelines. This adjustment will better reflect the clinical complexity of our patients and allow for more timely and effective interventions to prevent cardiovascular morbidity and mortality in people with COPD.

### Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

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