

Authors' reply

Respuesta de los autores

To the Editor,

We thank Castro-Delgado and Pardo Ríos for their comments and reflections regarding the risk of circularity and performative prediction in

artificial intelligence (AI) systems applied to healthcare, as well as González-Martínez and Mateo for their remarks concerning the possibility of reinforcing previous patterns rather than correcting them when the model shifts from observing practice to influencing it. However, we consider it necessary to clarify five fundamental aspects in the interpretation of our work.¹

First, the purpose of the model is to serve as a management tool, not a clinical decision-making tool. The model was neither designed nor proposed as a clinical decision-support system to determine the admission of individual patients, but rather as a tool aimed at managing healthcare burden and planning hospital resources.² As described, its integration into a dashboard is intended to provide an aggregated and anticipatory view of healthcare demand by combining predictions with operational indicators (occupancy, patients awaiting beds, admission trends, among others). In this context, the individual prediction does not constitute a clinical recommendation nor is it intended to guide admission decisions.

Second, regarding the risk of automation bias, we would like to emphasize that automation bias has been documented when systems directly influence individual clinical decision-making.³ However, in our case this possibility is limited because: a) the model was not designed as a prescriptive tool; b) it is not part of the formal clinical decision-making process or decision-support pathway (the individual admission probability estimated by the model is not accessible to clinicians); and c) its purpose is organizational rather than individual patient care-oriented. Therefore, the proposed mechanism of direct feedback between prediction and clinical decision-making does not represent the primary use scenario of the system.⁴

Third, regarding performative prediction, this is a relevant phenomenon in certain clinical AI contexts. Nevertheless, its impact requires the model to systematically modify the target variable (admission decision). Since our system does not intervene in that decision, the risk that future labels may become biased by the prediction per se is unlikely.

Fourth, regarding the interpretation of the model metrics, the results

presented reflect the model's performance on independent historical data, without any influence from AI systems on decision-making. Likewise, the lower sensitivity in the admission class, characteristic of class imbalance, is an expected behavior and not indicative of amplification risk through feedback.

Finally, with regard to future developments, we agree that any AI-based system, even when intended for organizational purposes, should be implemented with appropriate monitoring capable of detecting possible changes in usage patterns or unforeseen indirect effects.⁵

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