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Dear Editorial Team of BMC Medical Informatics and Decision Making

I am writing to submit our manuscript entitled "*Predicting disease outcomes from remote monitoring using Machine Learning: a systematic review*" for consideration for publication in BMC Medical Informatics and Decision Making, as part of the special issue on "*Bias detection and mitigation in medical informatics*." This systematic review has been co-authored by Jonas Wolber (jwolber@ukaachen.de), Prof. Martin Mücke (mamuecke@ukaachen.de), Prof. Andreas Schuppert (schuppert@aices.rwth-aachen.de), and Dr. Julia Sellin (jsellin@ukaachen.de).

Our review investigates how bias influences the application of Machine Learning (ML) for predicting health outcomes in Remote Patient Monitoring (RPM) of patients with chronic disease. Specifically, we analyze the biases embedded in health data, labeling practices, and validation strategies that challenge the reliability and generalizability of ML-based prediction models. The inclusion of bias detection and mitigation frameworks is a central theme of our study, aligning closely with the objectives of your special issue.

The relevance of our work is underscored by the growing adoption of RPM systems, accelerated by the COVID-19 pandemic, and their potential to advance clinical decision support in remote settings. While ML has demonstrated promise in transforming RPM, structural biases—whether rooted in demographic disparities, data collection protocols, or model design—threaten its equitable application. By systematically reviewing existing studies, we aim to identify key areas where bias detection frameworks and mitigation strategies are critically needed, contributing to more inclusive and reliable decision-making processes in medical informatics.

We believe our systematic review aligns well with your journal’s mission to advance interdisciplinary medical informatics and clinical decision support systems. By addressing bias detection and mitigation in RPM, we hope to provide insights that support the development of equitable healthcare practices, furthering the goals of this special issue.

We confirm that our manuscript has no competing interests and that all authors have approved its submission. The manuscript has not been published or submitted elsewhere. We have adhered to all submission guidelines provided on your website.

We look forward to your feedback and hope to contribute to this important collection.

Sincerely,

Jonas Wolber