June 14, 2025

Chris Carswell, PhD

Editor

PharmacoEconomics

Dear Dr. Carswell,

On behalf of my co-authors, I am pleased to submit our manuscript entitled **“Building Efficient Microsimulation Models in R: A How-To Guide”** for consideration in PharmacoEconomics as part of your special issue on Individual-Level Models for Economic Evaluations.

This manuscript is a response to your call for papers and expands upon the abstract we previously submitted, which was accepted for inclusion in the special issue. We appreciate the invitation to submit a complete manuscript. We are excited to contribute a practical and detailed tutorial for the growing community of health economists and decision scientists interested in individual-level modeling.

Our paper presents a computational framework for developing scalable and reproducible microsimulation models in R. The tutorial guides readers through various strategies, including vectorization, modular design, Rcpp integration, and parallel computing. These techniques significantly reduce runtimes and allow for robust modeling of patient-level heterogeneity and history dependence. Additionally, the paper complements existing tools such as hesim and microsimulation, providing users with the knowledge to build customized models from scratch or to extend these packages as needed.

We believe this submission will serve as a valuable resource for researchers who develop and apply microsimulation models in pharmacoeconomic evaluations, especially in areas where model complexity or performance demands exceed what standard solutions can accommodate.

Thank you for considering our work. We look forward to the opportunity to contribute to this important special issue and are happy to respond to any questions or revision requests.

Sincerely,

Sincerely,

A close-up of a handwritten letter

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Associate Professor

Aaron N Winn, MPP, PhD