

**Boulesteix, A.-L., Groenwold, R. H., Abrahamowicz, M., Binder, H., Briel, M., Hornung, R., Morris, T. P., Rahnenführer, J., & Sauerbrei, W. (2020). Introduction to statistical simulations in health research. *BMJ Open* (Vol. 10, Issue 12, p. e039921).**

<https://doi.org/10.1136/bmjopen-2020-039921>

#### Short summary

In health research, statistical methods are frequently used to address a wide variety of research questions. For almost every analytical challenge, different methods are available. But how do we choose between different methods and judge whether the chosen method is appropriate for our specific study? The objective of this paper is to demonstrate that simulation studies, that is, experiments investigating synthetic data with known properties, are an invaluable tool for addressing these questions. We provide an introduction to simulation studies for researchers involved in statistical analyses, who (1) may rely on simulation studies published in statistical literature to choose their statistical methods and who, thus, need to understand the criteria of assessing the validity and relevance of simulation results and their interpretation; and/or (2) need to understand the basic principles of designing statistical simulations in order to efficiently collaborate with more experienced colleagues or start learning to conduct own simulations.