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Decoding optimal methods in treatment switching: Recommendations from oncology-inspired simulation studies

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Please provide a brief biography for the Presenting author(s)
Dr Orlando Doehring is a statistician in the medical market access oncology group at GSK, with prior degrees in machine learning, statistical methodology and statistical genetics. Orlando has a broad interest in HTA, RWE, treatment switching and indirect treatment comparisons.

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Treatment switching (TS) is common in oncology trials. Patients may switch due to adverse events, lack of efficacy, availability of more promising alternative therapies and typically due to patients' disease progression. Switching may occur from each treatment arm but to accommodate all relevant methodologies the adjustment of treatment effect was only applied to patient switching from the control to the experimental treatment arm.

In a series of papers, Latimer et al designed simulations to mirror data regularly observed in metastatic cancer. Switching was not permitted before disease progression (PD) and patients were only at risk of switching at the next few visits after PD.

Latimer et al compared various adjustment methods in these papers, such as intention-to-treat, per protocol, rank-preserving structural failure time model, two stage estimation and inverse probability of censoring weights.

However, there is lack of clarity which TS adjustment works well under which scenarios. For that purpose, various scenarios will be assessed where factors, such as sample size, proportion of switchers, size of the treatment effect, censoring proportions, presence of a constant treatment effect and availability of time dependent confounders were varied.

Learnings across these scenarios will be aggregated. And provided that the ground truth of the treatment effect is typically unknown in randomized clinical trials and real-world studies, these insights will offer directions which methods, a priori, are expected to work best for the adjustment of the treatment effect.