Can today's intention to treat have a causal effect on tomorrow's hazard function?

Jan Beyersmann

(Ulm University)

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and online via Zoom (Link)
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Hazards condition on previous survival, which makes them both identifiable based on censored data and the inferential key quantities of survival analysis. It also makes them subject to critique from a causal point of view. The worry is that after randomization of the intention to treat a more beneficial treatment will help sicker patients to survive longer, rendering treatment intention and markers of sickness dependent after time origin. Called "collider bias", this is interpreted as breaking randomization and therefore complicating detection of a causal treatment effect. The strange part of this argument is that the situation at later times is explained as a causal consequence of treatment. Jan Beyersmannl reviews this dilemma - identifiability vs. causal concerns - and argue that there is a causal effect of today's intention to treat on the future hazard function, if interpreted in a functional way. He also argues that things are the way they should be and "collider bias" really "collider effect", that the latter has little to do with time-to-event, and that piecewise constant hazard ratios carry information on how treatment works - but that the notion of a time-varying effect may be more elusive than may be apparent at first glance. His impression is that the debate is a bit pointed, but that there is general agreement that analyses of hazards - where the causal effect is hidden or perhaps obvious - should routinely be translated onto the probability scale. His worry is that these subtleties are lost in translation and hel illustrates matters with a (typical) example from benefit-risk assessment in Germany, where a company managed to both claim a better and a worse safety profile of their drug, while only partially acknowledging the need to account for censoring. Leaving statistical metaphysics behind, he also discusses a multistate approach to g-computation motivated by a phase 3 trial of non-small-cell lung cancer patients where the experimental treatment was put on ("clinical") hold by the FDA for some months shortly before recruitment was completed. The aim of the analysis is to estimate the survival distributions (sic) in the hypothetical scenario where the put-on-hold hazard is equated with zero (sic). The difficulty is that time-to-clinical-hold and time-to-death are not independent.

Biography:
Jan Beyersmann received his PhD from the University of Freiburg's faculty of Mathematics and Physics in 2005. He worked as a biometrician at Beiersdorf from 2000 to 2001 and as a scientist at the Institute of Medical Biometry and Medical Informatics at the University Hospital Freiburg from 2001 to 2012. Since 2013, he is professor of biostatistics at the University of Ulm .