

Clinical Reading Questions #8

HST 190: Introduction to Biostatistics

These discussion questions are based on Nguyen et al. (2019).

1. Identify the main research question of the study.
2. Who are the “subjects” in this study, and how many are included?
3. How were these subjects sampled? What effect does this have on the study findings? (In particular, what covariates were collected and how – what effect might that have on the results?)
4. In previous cohort analyses we have read, the outcomes were fully observed for all subjects—is that the case in this paper? Why is it necessary for the researchers to use survival analysis tools that account for censoring? Should the censoring be considered ‘non-informative’?
5. Is there a difference between the p-values reported in Figures 2 and 3, and whether or not the corresponding hazard ratio 95% confidence interval in Table 2 will contain the null value of 1?
6. The authors note that in the analysis of each separate cause of death, all other deaths are considered censoring events. Can you think of a way that this might lead to misleading results? Does considering “underlying or contributing” causes of death address this concern?
7. Out of all of the Kaplan-Meier and Cox PH analyses, what do the researchers conclude? How do these findings contrast with prior studies comparing NFL players to the general public?

References

Nguyen, Vy T, Ross D Zafonte, Jarvis T Chen, Kalé Z Kponee-Shovein, Sabrina Paganoni, Alvaro Pascual-Leone, Frank E Speizer, et al. 2019. “Mortality Among Professional American-style Football Players and Professional American Baseball Players.” *JAMA Network Open* 2 (5): e194223. <https://doi.org/10.1001/jamanetworkopen.2019.4223>.