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Modelling long term survival with non-proportional hazards

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Stellingen

1. Reduced-rank models can serve as a simple device to model time varying effects. Depending on the rank of the model, reduced-rank models can offer a whole range of models, from the very flexible full rank to the rigid rank=1 model.
Dit proefschrift, hoofdstukken 2 en 3.
2. There is no biological reasoning for assuming that frailties remain constant through time. On the contrary, it is reasonable to assume that in long follow up studies, individual frailty will vary with time.
Dit proefschrift, hoofdstukken 4.
3. In simulation studies of survival data, finding the right regression coefficients does not guarantee that the model is right. Depending on the fitted model, the behavior of the hazard and survival function depends not only on the coefficients but also on the baseline hazard and frailty variance (in case of a frailty model) or the time functions and their coefficients in case of a time varying effects model.
Dit proefschrift, hoofdstukken 4.
4. When dealing with time varying effects of the covariates expressing relationships with a single number is more complicated. Instead, a visual inspection of the effects is more useful. A plot of the covariate effects versus time will reveal interesting patterns in the data.
Dit proefschrift, hoofdstukken 5.
5. All models are wrong, but some are useful.
Dit proefschrift, hoofdstukken 7.
6. The goal of more sophisticated and extensive models is to provide better understanding of disease processes and better health care for the patients.
Dit proefschrift, hoofdstukken 7.
7. In a regression model one should always subtract the mean of the covariates before actually fitting the model.
8. There is a great number of unlikely events which could possible occur and which might deserve the title "coincidence". Each one of these may have a very small probability of occurring in a given time but since the number of unlikely events is large, it follows that coincidences will occur sooner or later. Indeed the world will be more surprising if coincidences never occurred.

9. Using pie charts to show that the proportion of women in a study was 55% and men 45%, or similar low information graphs, is a waste of ink and space.
Edward R. Tufte: The visual display of quantitative information, Graphics Press; 2nd edition (May 2001)
10. The main contribution of statisticians in medical research is not to carry out statistical tests, but to introduce statistical reasoning and logic into the situation.
11. Money spend on lottery could be considered as tax for being bad at probability theory.

Aris Perperoglou, 18 october 2006