Supplementary Materials for

"Bring more data!" – a good advice? Removing separation in logistic regression by increasing sample size

Hana Šíkovec, Angelika Geroldinger and Georg Heinze

Medical University of Vienna
Center for Medical Statistics, Informatics and Intelligent Systems
Section for Clinical Biometrics

e-mail: georg.heinze@meduniwien.ac.at

Supplementary Materials:

**Figure S1.** Nested loop plot showing type I error rate ($\beta_1 = 0$) and power ($\beta_1 \neq 0$) for $\hat{\beta}_1$ by the expected value of $Y, E(Y) \in \{0.1, 0.25\}$, the number of covariates $K \in \{2, 5, 10\}$, the value of $\beta_1 \in \{0, 0.35, 1.39, 2.77\}$ and the sample size $N \in \{80, 200, 500\}$ for all simulated scenarios. FC, Firth’s correction; ML+ISS, maximum likelihood combined with the increasing sample size approach; FC+ISS, Firth’s correction combined with the increasing sample size approach.
Figure S2. Nested loop plot of width of the 95% confidence intervals for $\beta_1$ by the expected value of $Y$, $E(Y) \in \{0.1, 0.25\}$, the number of covariates $K \in \{2, 5, 10\}$, the value of $\beta_1 \in \{0, 0.35, 1.39, 2.77\}$ and the sample size $N \in \{80, 200, 500\}$ for all simulated scenarios. The results for FC and ML+ISS for $E(Y) = 0.1$, $K = 10$ and $N = 80$ are outside of the plot range. FC, Firth’s correction; ML+ISS, maximum likelihood combined with the increasing sample size approach; FC+ISS, Firth’s correction combined with the increasing sample size approach.