

SAPS2, APACHE2, SOFA, and Core-10-TISS upon admission as risk indicators for ICU-acquired infections: a retrospective cohort study

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Additional File 2: R Script Code for Cox Models and Fine-and-Gray Models

The calculation of the models was based on a table with the following structure. Depending on the endpoint, the coding of "NI_endpoint_code" and "NI_time" was changed so that the first event was always evaluated.

NI_time (time until first event)	NI_endpoint_code (0 for discharge, 1 for infection, 2 for death)	Score (SAPS2/ APACHE2/ Core-10-TISS/ SOFA)	Other variables (Sex, external admission [yes/no], ward type [medical/ surgical])
xxx	xxx	xxx	xxx
xxx	xxx	xxx	xxx

1 Fine-and-Gray models

```
covariable_matrix_score <- model.matrix(NI_endpoint_code ~ score + sex  
+ external_admission + ward_type, data = mydata)
```

```
covariable_matrix_score = covariable_matrix_score[,-1]
```

```
fgmodel <- crr(ftime = NI_time, fstatus = NI_endpoint_code, cov1 =  
covariables_matrix_score, failcode="name_of_endpoint")
```

Depending on the model, the string "name_of_endpoint" was replaced with the string "0", "1" or "2" respectively.

2 Sensitivity analysis: Cox regression Models

```
surv_d <- Surv(NI_time, NI_endpoint_code)
```

```
cox_1 <- coxph(surv_d ~ score + $sex + external_admission + ward_type, data=mydata)
```

Depending on the model, NI_endpoint_code was replaced with the dichotomous (yes/no or 0/1) endpoint for infection, death, discharge, sepsis, PBSI, LRT, and UTI.