

Predictions

Mark Clements

August 2, 2018

Contents

1 R implementation for https://pclambert.net/software/stpm2/stpm2_timevar/

```
..- attr(*, "names")= chr "alive" "breastca" "cardiovas" "accident" ...
..$ adjchemo: Named int 0 1
.. ..- attr(*, "names")= chr "no" "yes"
..$ noyes : Named int 0 1 9
.. ..- attr(*, "names")= chr "no" "yes" "?"
..$ adjhormo: Named int 0 1 2 3 8 9
.. ..- attr(*, "names")= chr "no" "yes" "neo-adj" "ovariect" ...
..$ osi : Named int 0 1 9
.. ..- attr(*, "names")= chr "alive" "deceased" "unknown"
..$ post : Named int 0 1
.. ..- attr(*, "names")= chr "pre" "post"
..$ recent : Named int 0 1
.. ..- attr(*, "names")= chr "1978-1987" "1988-1993"
..$ size : Named int 1 2 3
.. ..- attr(*, "names")= chr "<=20 mm" ">20-50mmm" ">50 mm"
..$ causelab: Named int 0 1 2
.. ..- attr(*, "names")= chr "Censored" "Cancer" "Other causes"
- attr(*, "expansion.fields")=List of 45
..$ : chr "_dta" "note0" "10"
..$ : chr "_dta" "note10" "- follow up information available"
..$ : chr "_dta" "note9" "- axillary clearance was performed"
..$ : chr "_dta" "note8" "- no earlier other cancer except basal cell ca or low grad
..$ : chr "_dta" "note7" "- no earlier primary breastcancer"
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..$ : chr  "_dta" "note6" "- no relapse before or at registration at the DDHCC"
..$ : chr  "_dta" "note5" "- no metastasis at surgery and no relapse within 1 month a
..$ : chr  "_dta" "note4" "- if surgery elsewhere referred to DDHCC within 3 months (
..$ : chr  "_dta" "note3" "- date of surgery up till (incl) 1993"
..$ : chr  "_dta" "note2" "- tissue available at Rotterdam tunmorbank"
..$ : chr  "_dta" "note1" "Inclusion criteria for patients in this series:"
..$ : chr  "dcause" "width" "13"
..$ : chr  "osi" "width" "8"
..$ : chr  "os" "width" "5"
..$ : chr  "mfi" "width" "3"
..$ : chr  "mf" "width" "5"
..$ : chr  "rfi" "width" "3"
..$ : chr  "rf" "width" "5"
..$ : chr  "hormon" "width" "5"
..$ : chr  "chemo" "width" "8"
..$ : chr  "meno" "width" "4"
..$ : chr  "age" "width" "3"
..$ : chr  "year" "width" "4"
..$ : chr  "pid" "width" "4"
..$ : chr  "_dta" "ReS_Xij" "mnr aard"
..$ : chr  "_dta" "ReS_str" "0"
..$ : chr  "_dta" "ReS_j" "vnrtis"
..$ : chr  "_dta" "ReS_ver" "v.2"
..$ : chr  "_dta" "ReS_i" "pid"
..$ : chr  "pr_1" "fp" "ln(X): X = (pr+1)"
..$ : chr  "enodes_1" "fp" "enodes^2"
..$ : chr  "_dta" "st_t" "_t"
..$ : chr  "_dta" "st_t0" "_t0"
..$ : chr  "_dta" "st_d" "_d"
..$ : chr  "_dta" "st_exexp" "10 * 12"
..$ : chr  "_dta" "st_exit" "time 10 * 12"
..$ : chr  "_dta" "st_bs" "12"
..$ : chr  "_dta" "st_s" "12"
..$ : chr  "_dta" "st_o" "0"
..$ : chr  "_dta" "st_ev" "1"
..$ : chr  "_dta" "st_bd" "rfi"
..$ : chr  "_dta" "st_bt" "rf"
..$ : chr  "_dta" "st_id" "pid"
..$ : chr  "_dta" "st_ver" "2"
..$ : chr  "_dta" "_dta" "st"

```

```

- attr(*, "byteorder")= chr "LSF"

rottp2b <- transform(rottp2b, time = pmin(rf,60)/12)
rottp2b <- transform(rottp2b, event = (rfi==1) & (time < 60/12))

fit <- stpm2(Surv(time,event) ~ hormon + nsx(age,df=3,centre=60,stata=TRUE) + pr_1,
             data=rottp2b, df=4, stata=TRUE)
eform(fit)

nd <- data.frame(age=60, hormon="no", pr_1=0)
plot(fit, type="surv", newdata=nd, xlab="Years from surgery")

nd <- data.frame(age=60, hormon="no", pr_1=0)
plot(fit, type="surv", newdata=nd, xlab="Years from surgery")

nd <- data.frame(age=60, hormon="no", pr_1=0)
plot(fit, type="haz", newdata=transform(nd, hormon="yes"), xlab="Years from surgery",
     line.col="blue", rug=FALSE)
lines(fit, type="haz", newdata=nd, col="red")

s_time1 <- predict(fit, newdata=transform(rottp2b, time=1), type="surv")
hist(s_time1,xlab="Time from surgery",main="")

s_time5 <- predict(fit, newdata=transform(rottp2b, time=5), type="surv")
hist(s_time5,xlab="Time from surgery",main="")

```