Package ‘CIFsmry’

July 10, 2016

Type Package
Title Weighted summary of cumulative incidence functions
Version 1.0.1.1
Date 2013-10-10
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Depends R(>= 3.0.1)
Description Estimate of cumulative incidence function in two samples. Provide weighted summary statistics based on various methods and weights.
License GPL (>= 2)
NeedsCompilation yes
Repository CRAN
Date/Publication 2016-07-10 15:39:40

R topics documented:

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| CIFsm | Cumulative incidence function estimate and weighted summary statistics |

Description

Estimate the cumulative incidence function for cause of interest in two-sample study. Provide the weighted summary statistics based on given method and weight.
Usage

`CIFsm(ds, method="dif", pp = 0, qq = 0, conf.bd=T, n.sim=500)`

Arguments

ds is a dataset contains the time, cause of event and group. For cause, 0 means censoring, 1 is the cause of event, 2 is all other causes. Two groups need to be coded as 1 and 2.

method can be chosen from "dif"=risk difference, "rr"=risk ratio and "or"=odds ratio

pp first parameter of weight function

qq second parameter of weight function

conf.bd logical; if TRUE, create confidence band cut point. Set to FALSE if the confidence band is not needed, which reduces the computational time

n.sim number of simulations used in creating confidence band; will be ineffective if conf.bd is FALSE

Details

The estimates and summary statistics are described in Zhang and Fine (2008).

Value

sample Total sample size from both groups

used Sample used in analysis. Subject with missing value in any of the three variables (time, cause or group) will be excluded from analysis

size Sample size for each group

njp Total number of unique event time points in two groups

tjp Unique event time points from both groups

ny1 Number of subject at risk in group 1

f1 Estimate of cumulative incidence function for group 1

f1.se Standard error of cumulative incidence function for group 1

ny2 Number of subject at risk in group 2

f2 Estimate of cumulative incidence function for group 2

f2.se Standard error of cumulative incidence function for group 2

dif Estimate of difference in cumulative incidence (risk difference) between the 2 groups

dif.se Standard error of the risk difference

dif.pv P-value of the risk difference

rr Risk ratio of the cumulative incidence between the 2 groups

rr.se Standard error of the risk ratio

rr.pv P-value of the risk ratio
or or.se or.pv
Odds ratio of the cumulative incidence between the 2 groups
Standard error of the odds ratio
P-value of the odds ratio

or.se
Standard error of the odds ratio

or.pv
P-value of the odds ratio

cbcut
95% confidence band cut point of risk difference, risk ratio and odds ratio based on simulation method.

method
Method used for the weighted summary statistics

weight
Weight used for the weighted summary statistics

region
Time range of the data

nbd
Index of beginning and end of the data. For internal use only

ave
Time integrated weighted summary statistics

avese
Standard error of the time integrated weighted summary statistics

ci95
95% confidence interval of the time integrated weighted summary statistics

avepval
P-value of the time integrated weighted summary statistics

wt
Weight assigned at each unique event time point

Author(s)
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References

J. Li, M.J. Zhang and J. Le-Rademacher. Weighted Summary of two Cumulative Incidence Functions with R-CIFsmry Package. Computer Methods and Programs in Biomedicine[Submitted].

Examples

```R
library(CIFsmry)
data(sim.dat)
out <- CIFsm(sim.dat,pp=0,qq=0)
out$avepval
plot(out$tjp,out$f1,type="s",ylim=c(0,1),xlab="n",xlab="Time",ylab="CIF",lty=1,lwd=1)
points(out$tjp,out$f2,type="s",lty=1,lwd=3)
axis(1,at=seq(0,6,by=1),cex=0.6)
axis(2,at=seq(0,1,by=0.2),cex=0.6)
legend("bottomright",c("1","2"),title="group",lty=1,lwd=c(1,3))

out10 <- CIFsm(sim.dat,pp=1,qq=0)
out10$avepval
```
print.CIFsm  

*Print CIFsm object*

**Description**

Print the estimated of cumulative incidence functions and point-wise summary statistics.

**Usage**

```r
## S3 method for class 'CIFsm'
print(x, ...)
```

**Arguments**

- `x` CIFsm object from function CIFsm
- `...` additional arguments to print()

**Details**

Risk set, cumulative incidence function estimate, standard error and p-value of each group. Point-wise summary statistics estimate, standard error and p-value.

**See Also**

CIFsm

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**sim.dat**  

*Simulated competing risk data*

**Description**

Simulated data with 100 subjects and 3 variates: time, cause and group.

**Format**

The data has 100 rows and 3 columns.

- `time` a numeric vector. Survival time.
- `cause` a numeric vector code. Survival status. 1: failure from the cause of interest; 2: failure from other causes; 0: censored.
- `group` a numeric vector code. 1: group 1; 2: group 2.

**Source**

Simulated data
Examples

data(sim.dat)
names(sim.dat)
table(sim.dat$cause)
table(sim.dat$group)
tapply(sim.dat$time,sim.dat$group,summary)

summary.CIFsm

Summary of weighted time-integrated summary statistics

Description

Summary statistic estimate, standard error, 95% confidence interval, p-value depending on the method and weight.

Usage

## S3 method for class 'CIFsm'
summary(object, ...)

Arguments

object object of function CIFsm
... additional arguments to summary()

See Also

CIFsm
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