

# Package ‘RcmdrPlugin.EBM’

October 1, 2015

**Type** Package

**Title** Rcmdr Evidence Based Medicine Plug-in Package

**Version** 1.0-10

**Date** 2015-09-30

**Author** Daniel-Corneliu Leucuta <danny.ldc@gmail.com>

**Maintainer** Daniel-Corneliu Leucuta <danny.ldc@gmail.com>

**Depends** R (>= 2.10), Rcmdr (>= 1.7.0), epiR, abind

**Description** Rcmdr plug-in GUI extension for Evidence Based Medicine medical indicators calculations (Sensitivity, specificity, absolute risk reduction, relative risk, ...).

**License** GPL (>= 2)

**NeedsCompilation** no

**Repository** CRAN

**Date/Publication** 2015-10-01 11:13:32

## R topics documented:

RcmdrPlugin.EBM-package . . . . .	1
fncEBMPostTest . . . . .	3
<b>Index</b>	<b>4</b>

---

RcmdrPlugin.EBM-package

*Evidence Based Medicine Rcmdr Plug-In*

---

## Description

This package provides an Rcmdr GUI extension plug-in for Evidence Based Medicine calculations. The purpose of this GUI extension was to improve teaching in the use of Evidence Based Medicine calculations. The interface allows for computing diagnostic medical indicators: sensitivity, specificity, diagnostic accuracy, Youden's index, positive predictive value, negative predictive value, positive likelihood ratio, negative likelihood ratio, number needed to diagnose; prognosis medical indicators: relative risk, attributable risk, odds ratio; therapeutic medical indicators: absolute risk reduction, number needed to treat, relative risk reduction, relative risk, odds ratio. Also the interface allows computing the post-test probability from a pre-test probability and the likelihood ratio.

The medical indicators are computed with `epi.2by2`. For therapy indicators it offers results based AR, OR, RR with their confidence intervals. The following calculations are done to compute the therapeutic indicators:

```
ARR <- - AR (ARR CI lower bound =min(-AR$lower, -AR$upper), ARR CI upper bound =max(-AR$lower, - AR$upper))
```

```
NNT <- 1 / ARR (NNT CI lower bound =min(1/ARR.lower, 1/ARR.upper), NNT CI upper bound =max(1/ARR.lower, 1/ARR.upper))
```

```
if ARR.lower<0 then NNT.lower = NNT.upper and NNT.upper = inf
```

```
RR <- RR
```

```
OR <- OR
```

```
RRR <- 1 - RR (RRR CI lower bound =min(1-RR$lower, 1-RR$upper), RRR CI upper bound =max(1-RR$lower, 1-RR$upper))
```

## Details

```
Package: RcmdrPlugin.EBM
Type: Package
Version: 1.0-2
Date: 2012-04-13
License: GPL (>= 2)
LazyLoad: yes
```

## Author(s)

Daniel-Corneliu Leucuta

Maintainer: Daniel-Corneliu Leucuta <danny ldc@gmail.com>

## See Also

[Rcmdr](#)

---

fncEBMPostTest	<i>Computes post test probability to have a disease based on the pre-test probability and the likelihood ratio of the diagnostic test</i>
----------------	---

---

**Description**

This dialog box permits you to define the probability of a patient to have a disease before performing a diagnostic test (pre-test probability), and the likelihood ratio of the diagnostic test. Based on these two, the post-test probability to actually have the disease is computed.

This is computed the following way:

```
pre-test odds <- pre-test probability / (1 - pre-test probability)
```

```
post-test odds <- pre-test odds * likelihood ratio
```

```
post-test probability<- post-test odds / (post-test odds + 1)
```

**Usage**

```
fncEBMPostTest(.pretest, .LR)
```

**Arguments**

.pretest      Pre-test probability.

.LR            Likelihood ratio of the diagnostic test.

**Value**

The post-test probability of having the disease.

**Author(s)**

Daniel-Corneliu Leucuta <danny ldc@gmail.com>

**Examples**

```
fncEBMPostTest(.12, 5.7)
```

# Index

\*Topic **package**

RcmdrPlugin.EBM-package, [1](#)

\*Topic **post-test probability**

fncEBMPostTest, [3](#)

fncEBMPostTest, [3](#)

Rcmdr, [2](#)

RcmdrPlugin.EBM

(RcmdrPlugin.EBM-package), [1](#)

RcmdrPlugin.EBM-package, [1](#)