

# Package ‘MPBoost’

November 29, 2022

**Type** Package

**Title** Treatment Allocation in Clinical Trials by the Maximal Procedure

**Version** 0.1-5

**Date** 2022-11-21

**Author** Ignacio López-de-Ullibarri [aut, cre]

**Maintainer** Ignacio López-de-Ullibarri <ignacio.lopezdeullibarri@udc.es>

**Description** Performs treatment allocation in two-arm clinical trials by the maximal procedure described by Berger et al. (2003) <doi:10.1002/sim.1538>. To that end, the algorithm provided by Salama et al. (2008) <doi:10.1002/sim.3014> is implemented.

**License** GPL (>= 2)

**Imports** Rcpp (>= 1.0.5)

**LinkingTo** Rcpp, BH

**Depends** R (>= 4.1.0)

**Suggests** knitr, pinp, rmarkdown

**VignetteBuilder** knitr

**NeedsCompilation** yes

**Encoding** UTF-8

**Repository** CRAN

**Date/Publication** 2022-11-29 12:50:02 UTC

## R topics documented:

MPBoost-package . . . . .	2
mpboost . . . . .	2

<b>Index</b>	<b>4</b>
--------------	----------

---

 MPBoost-package

*Treatment Allocation in Clinical Trials by the Maximal Procedure*


---

### Description

Performs treatment allocation in two-arm clinical trials by the maximal procedure described by Berger et al. (2003) <doi:10.1002/sim.1538>. To that end, the algorithm provided by Salama et al. (2008) <doi:10.1002/sim.3014> is implemented.

### Details

Index of help topics:

MPBoost-package	Treatment Allocation in Clinical Trials by the Maximal Procedure
mpboost	Compute Allocation Sequences by the Maximal Procedure

### Author(s)

Ignacio López-de-Ullibarri

Maintainer: Ignacio López-de-Ullibarri <ignacio.lopezdeullibarri@udc.es>

### References

Berger, V. W., Ivanova, A., Knoll, M. D. (2003). Minimizing predictability while retaining balance through the use of less restrictive randomization procedures. *Statistics in Medicine*, 22: 3017-3028. [doi:10.1002/sim.1538](https://doi.org/10.1002/sim.1538).

Salama, I., Ivanova, A., Qaqish, B. (2008). Efficient generation of constrained block allocation sequences. *Statistics in Medicine*, 27, 1421-1428. [doi:10.1002/sim.3014](https://doi.org/10.1002/sim.3014).

---

 mpboost

*Compute Allocation Sequences by the Maximal Procedure*


---

### Description

This function produces a treatment assignment sequence generated according to the maximal procedure of Berger et al. (2003). It is an implementation of the algorithm proposed by Salama et al. (2008).

### Usage

```
mpboost(N1, N2, MTI = 2L)
```

**Arguments**

N1	An integer specifying the size of the sample assigned to treatment 1.
N2	An integer specifying the size of the sample assigned to treatment 2.
MTI	An integer specifying the maximum tolerated imbalance (MTI). The default is 2.

**Value**

A vector of N1 1's and N2 2's representing the allocation sequence.

**Note**

See the package's vignette for more details and further examples of the use of the function.

**References**

- Berger, V. W., Ivanova, A., Knoll, M. D. (2003). Minimizing predictability while retaining balance through the use of less restrictive randomization procedures. *Statistics in Medicine*, 22: 3017-3028. [doi:10.1002/sim.1538](https://doi.org/10.1002/sim.1538).
- Salama, I., Ivanova, A., Qaqish, B. (2008). Efficient generation of constrained block allocation sequences. *Statistics in Medicine*, 27, 1421-1428. [doi:10.1002/sim.3014](https://doi.org/10.1002/sim.3014).

**Examples**

```
#\donttest{  
mpboost(N1 = 25, N2 = 25, MTI = 3)  
#}
```

# Index

\* **clinical trial**

mpboost, [2](#)

\* **constrained block randomization**

mpboost, [2](#)

\* **package**

MPBoost-package, [2](#)

MPBoost (MPBoost-package), [2](#)

mpboost, [2](#)

MPBoost-package, [2](#)