Package 'modest'

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Title Model-Based Dose-Escalation Trials

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Description User-friendly Shiny apps for designing and evaluating phase I cancer clinical trials, with the aim to estimate the maximum tolerated dose (MTD) of a novel drug, using a Bayesian decision procedure based on logistic regression.

License GPL-2

Imports knitr, rhandsontable, shiny, shinyBS

VignetteBuilder knitr

BugReports https://github.com/PhilipPallmann/modest/issues/

NeedsCompilation no

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R topics documented:

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apps *Shiny GUIs for model-based dose-escalation studies*

Description

A user-friendly tool to design and evaluate phase I cancer clinical trials, with the aim to estimate the maximum tolerated dose (MTD) of a novel drug. This is a point-and-click implementation of the dose-escalation study design proposed by Zhou & Whitehead (2003) that uses a Bayesian logistic regression method. The graphical user interfaces (GUIs) are based on R's Shiny system.

Usage

```
design()
conduct()
```

Details

This package contains two separate modules:

1) The `design` module allows to investigate different design options and parameters, and to simulate their operating characteristics under various scenarios. Type `design()` and the GUI will open in a browser window.

2) The `conduct` module provides guidance for dose selection throughout the study, and a recommendation for the MTD at the end. Type `conduct()` and the GUI will open in a browser window.

Both modules generate a variety of graphs to visualise data and design properties, and create downloadable PDF reports of simulation results and study data analyses.

Author(s)

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References

Zhou Y, Whitehead J (2003) Practical implementation of Bayesian dose-escalation procedures. *Drug Information Journal*, **37**(1), 45–59.

Examples

```
design()
conduct()
```

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