

Supplementary material AAPS J

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Loading libraries

```
knitr::opts_chunk$set(echo = TRUE)
# Libraries
library(gridExtra)
library(ggplot2)
library(grid)
library(devtools)
```

```
## Loading required package: usethis
```

```
library(mclust)
```

```
## Package 'mclust' version 5.4.6
```

```
## Type 'citation("mclust")' for citing this R package in publications.
```

Install package in development mode

This is a snapshot of the version of npde released at the time of the revision of the paper submitted to AAPS Journal. The new library should be released in December 2020 and will be used for the final version. We use development mode to avoid messing up any existing installation of npde.

```
dev_mode() # development mode
```

```
## Dev mode: ON
```

```
install.packages(pkgs="/home/eco/work/npde/npde30/npde_3.0.tar.gz",repos=NULL)
```

```
## Installing package into '/home/eco/R-dev'
```

```
## (as 'lib' is unspecified)
```

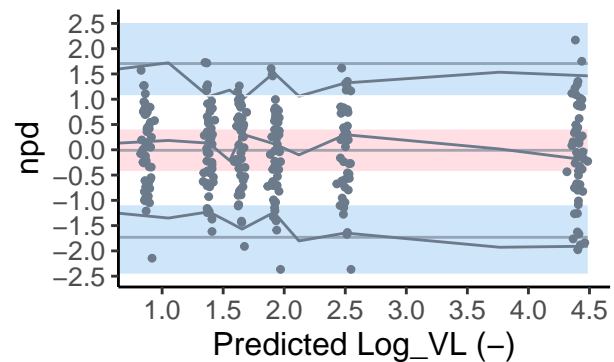
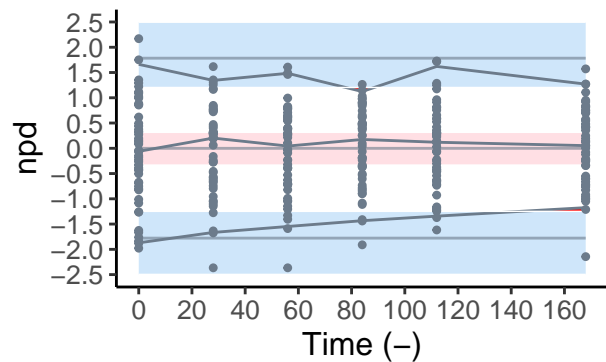
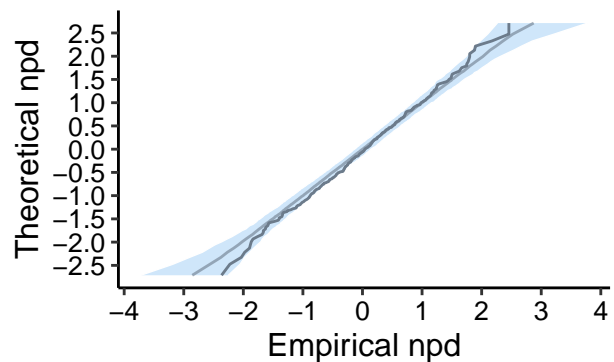
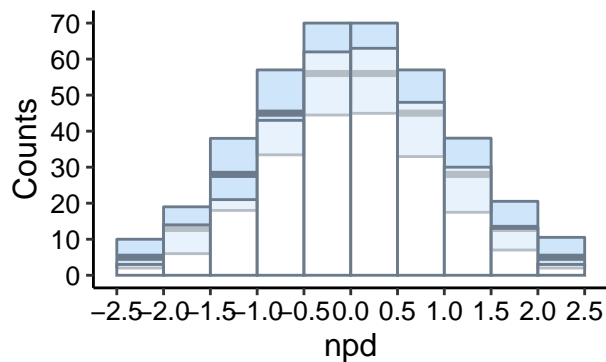
```
library(npde)
```

Diagnostic plots for viral load example

Default diagnostic plots for npd for the viral load example used in the paper

```
## -----
## Distribution of npde :
##      nb of obs: 300
##      mean= 0.03821   (SE= 0.053 )
##      variance= 0.8327   (SE= 0.068 )
##      skewness= -0.04464
```

```
##          kurtosis= -0.2207
## -----
## Statistical tests (adjusted p-values):
##   t-test          : 1
##   Fisher variance test : 0.0959 .
##   SW test of normality : 1
##   Global test      : 0.0959 .
## ---
## Signif. codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
## -----
```



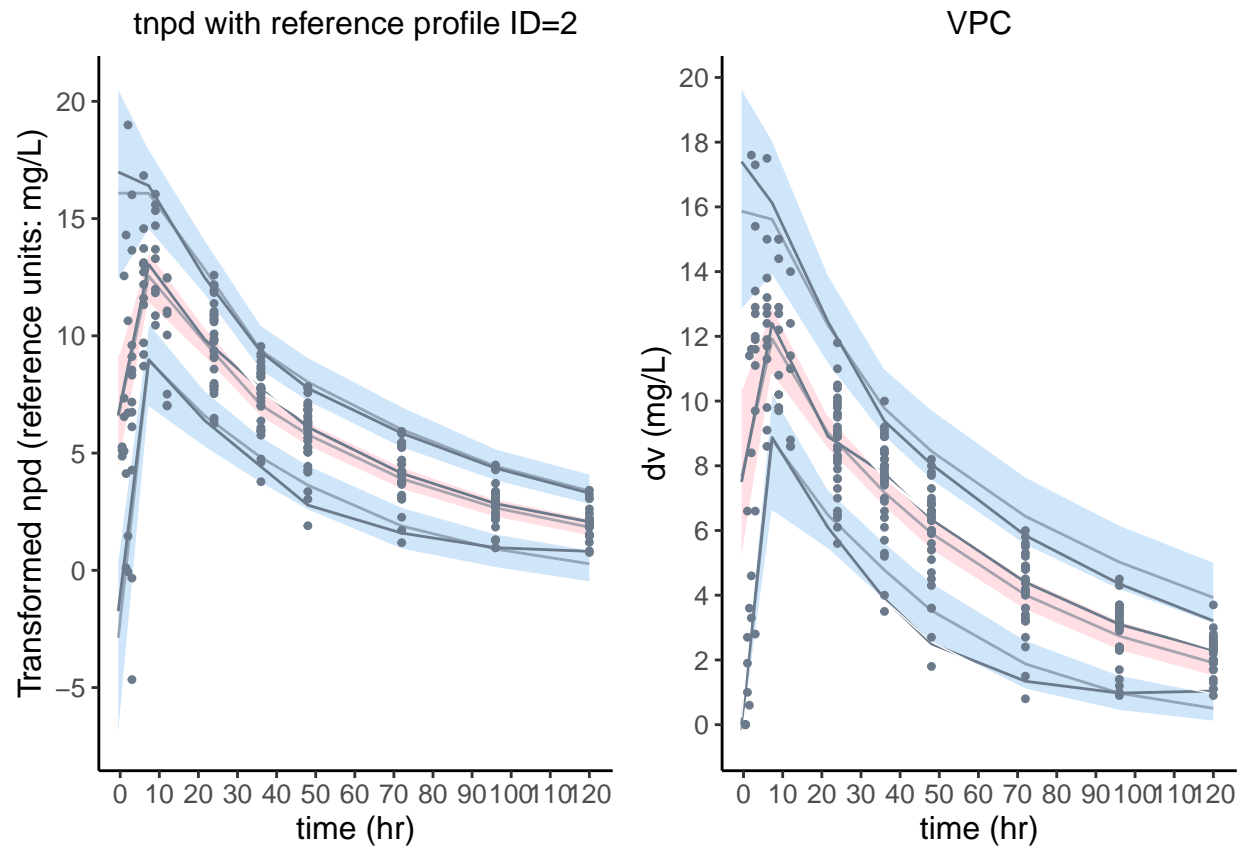
npd for the warfarin example in the documentation

Running the example:

```
## -----
## Distribution of npde :
##   nb of obs: 247
##   mean= 0.02928   (SE= 0.059 )
##   variance= 0.8549 (SE= 0.077 )
##   skewness= -0.07211
##   kurtosis= -0.4172
## -----
## Statistical tests (adjusted p-values):
##   t-test          : 1
##   Fisher variance test : 0.288
##   SW test of normality : 1
##   Global test      : 0.288
## ---
## Signif. codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
```

```
## -----
```

Reference plot for subject 2

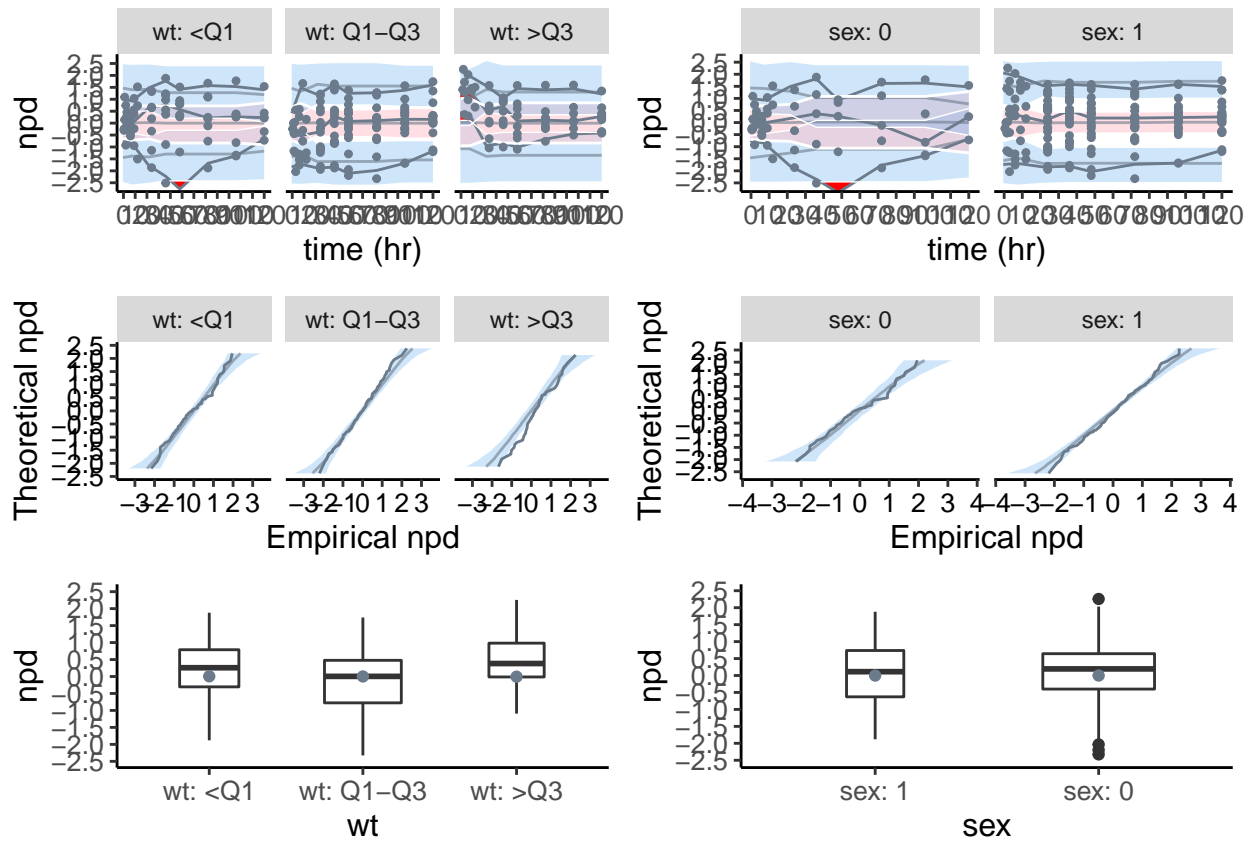


The code below shows several diagnostic plots for covariates:

- plots like scatterplots or distribution plots can be split over categories of covariates
- we can also plot the distribution of eg npd versus the categories as boxplots

```
## Warning: Removed 2 rows containing non-finite values (stat_boxplot).
```

```
## Warning: Removed 2 rows containing non-finite values (stat_boxplot).
```



End of code

Exit development mode.

```
dev_mode() # development mode
```

```
## Dev mode: OFF
```