

# Package ‘xpose.nlmixr’

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**Type** Package

**Title** Graphical Diagnostics for Pharmacometric Models: Extension to 'nlmixr'

**Version** 0.2.0

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**Description** Extension to 'xpose' to support 'nlmixr'. Provides functions to import 'nlmixr' fit data into an 'xpose' data object, allowing the use of 'xpose' for 'nlmixr' model diagnostics.

**License** GPL (>= 2)

**Encoding** UTF-8

**LazyData** true

**Depends** R (>= 3.2), xpose (>= 0.4.2)

**Imports** ggplot2 (>= 2.2.1), nlmixr (>= 1.1.0-0), dplyr (>= 0.7.4),  
tibble (>= 2.0.0), stringr (>= 1.2.0), tidyr (>= 0.7.2),  
magrittr (>= 1.5), methods (>= 3.4.1), vpc (>= 1.0.2), nlme,  
crayon, rlang

**RoxygenNote** 7.1.1

**NeedsCompilation** no

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nlmixr_vpc_theme	<i>Default VPC theme for 'xpose.nlmixr'</i>
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### Description

Default VPC theme for 'xpose.nlmixr'.

### Usage

```
nlmixr_vpc_theme
```

### Format

An object of class vpc\_theme of length 23.

### Value

A list with 'vpc' theme specifiers.

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summarise_nlmixr_model	<i>Data summary function</i>
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### Description

Convert 'nlmixr' model output into an 'xpose' database

### Usage

```
summarise_nlmixr_model(obj, model, software, rounding, runname)
```

**Arguments**

obj	nlmixr fit object to be evaluated
model	Model. Can be blank
software	Software that generated the model fit
rounding	Number of figures to round estimates to
runname	Name of the model object being converted

**Value**

A summary data object used by [xpose\\_data\\_nlmixr](#).

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theme_xp_nlmixr	<i>Default 'nlmixr' theme for 'xpose'</i>
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**Description**

Default 'nlmixr' theme for 'xpose'.

**Usage**

```
theme_xp_nlmixr()
```

**Value**

A list with 'xpose' theme specifiers.

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theo_sd_fit	<i>Single-dose theophylline PK data fit</i>
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**Description**

Single-dose theophylline PK data fit using the first-order conditional estimation method with interaction (FOCEI) in 'nlmixr', a modified tibble.

**Usage**

```
data("theo_sd_fit")
```

**Format**

A `tibble` with 132 observations and 22 variables, and an additional 13 properties.

ID Individual identifier, a factor  
TIME Time in hours, a numeric vector  
DV Theophylline concentration, a numeric vector  
EVID Event identifier, a numeric vector  
PRED Population predictions, a numeric vector  
RES Residuals, a numeric vector  
WRES Weighted residuals, a numeric vector  
IPRED Individual predictions, a numeric vector  
IRES Individual residuals, a numeric vector  
IWRES Individual weighted residuals, a numeric vector  
CPRED Conditional predictions, a numeric vector  
CRES Conditional residuals, a numeric vector  
CWRES Conditional weighted residuals, a numeric vector  
eta.ka Interindividual variability in  $k_a$ , a numeric vector  
eta.cl Interindividual variability in  $CL/F$ , a numeric vector  
eta.v Interindividual variability in  $V/F$ , a numeric vector  
ka Absorption rate in  $/h$ , a numeric vector  
cl Apparent clearance in  $L/h$ , a numeric vector  
v Apparent volume of distribution in  $L$ , a numeric vector  
cp Theophylline concentration, a numeric vector  
depot Amount of theophylline in the depot compartment, a numeric vector  
center Amount of theophylline in the central compartment, a numeric vector  
omega Omega matrix  
omegaR Omega Correlation matrix  
shrink Shrinkage table, includes skewness, kurtosis, and eta p-values  
parFixed Fixed Effect Parameter Table  
theta Fixed Parameter Estimates  
eta Individual Parameter Estimates  
seed Seed (if applicable)  
coefficients Fixed and random coefficients  
meta Model meta information environment  
modelName Model name (from R function)  
dataName Name of R data input  
simInfo RxODE list for simulation  
sigma List of sigma components and their values

**Details**

This dataset is an `nlmixr` fit object for demonstrating the use of `xpose.nlmixr`.

**Source**

NONMEM/nlme.

**Examples**

```
data(theo_sd_fit)
str(theo_sd_fit)
```

---

```
xpose_data_nlmixr      Import nlmixr output into R
```

---

**Description**

Convert 'nlmixr' model output into an 'xpose' database.

**Usage**

```
xpose_data_nlmixr(
  obj = NULL,
  pred = NULL,
  wres = NULL,
  gg_theme = theme_readable(),
  xp_theme = theme_xp_default(),
  quiet,
  skip = NULL,
  ...
)
```

**Arguments**

<code>obj</code>	nlmixr fit object to be evaluated.
<code>pred</code>	Name of the population prediction variable to use for plotting. If unspecified, it will choose either "NPDE", "CWRES", and "RES" (in that order) if the column exists in the data.
<code>wres</code>	Name of the weighted residual variable to use for plotting. If unspecified, it will choose either "NPDE", "CWRES", and "RES" (in that order) if the column exists in the data.
<code>gg_theme</code>	A <code>ggplot2</code> theme object.
<code>xp_theme</code>	An <code>xpose</code> theme or vector of modifications to the <code>xpose</code> theme (eg. <code>c(point_color = 'red', line_linetype = 'dashed')</code> ).
<code>quiet</code>	Logical, if <code>FALSE</code> messages are printed to the console.
<code>skip</code>	Character vector be used to skip the import/generation of: 'data', 'files', 'summary' or any combination of the three.
<code>...</code>	Additional arguments to be passed to the <code>read_delim</code> functions.

**Value**

An *xpose\_data* object suitable for use in 'xpose'.

**Examples**

```
xpdb <- xpose_data_nlmixr(obj = theo_sd_fit)
```

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