

Code merge - Scatterplots

Emmanuelle Comets

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Summary

Objective

Check scatterplots produced by **npde.plot.scatter** and auxiliary functions.

Current issues

- sorting the covariates in the facet plot
- labels on axes, titles
- box.plot: the width of the boxplots doesn't seem right (much thicker at the beginning but the groups should be equal size)

Requirements

- main function **npde.plot.scatterplot()**
 - input: npdeObject, which.x, which.y (X and Y variables to plot), ref.prof (reference profile), “...”
 - output: one plot
- auxiliary functions **aux.npdeplot.scatter()**
 - input:
 - * a dataframe obs.mat: matrix of Y observations to plot (Y= yobs, npde, npd, pd, tnpde, tnpd) versus X (X=independent variable (eg time), predictions (pred), covariates (cov)), with the following columns
 - x,y: values of X and Y
 - grp: grouping factor - used to sort groups if plot.box=TRUE
 - cens: 1 if censored, 0 otherwise
 - loq: value of LOQ for the observation (used in VPC plot to optionally plot the line y=LOQ)
 - category: value of the category (“all” or “none” if not split by a covariate)
 - * pi.mat: matrix of PI and empirical percentiles to plot for each bin, with columns
 - * grp: grouping factor (same as obs.mat) - not used
 - * xcent: X-value used as center of each bin (one value of xcent per grp)
 - * category: covariate category (“all” if over all)
 - * 3 prediction intervals: pminf, pmid, psup (mid=middle, inf, sup= extreme PIs)
 - for each PI, 3 quantiles: lower, median, upper (ie usually 0.025, 0.5, 0.975)
 - for each PI, the empirical percentile for the observed data: obs.inf, obs.median, obs.sup
 - * plot.opt: a list of graphical options used in the plot
 - output
 - * distribution plots: histogram (aux.plot.hist), ecdf or qqplot (aux.plot.dist)
 - * note: QQ-plot for uniform variable is similar to ecdf (theoretical quantiles correspond to the cumulative density function)

Defining folders, loading libraries

Loading functions

Run npde

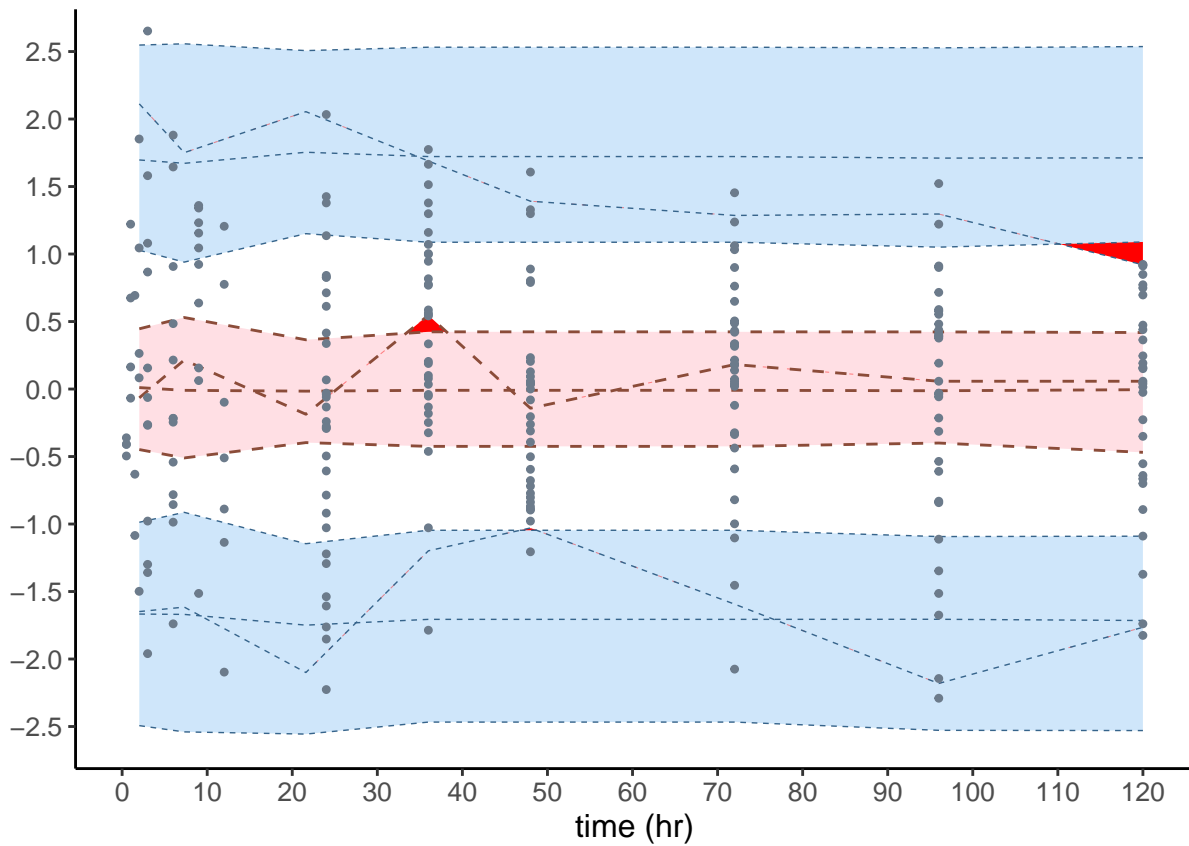
Prepare obsmat for npde/pd versus x, with or without covariates sex and weight

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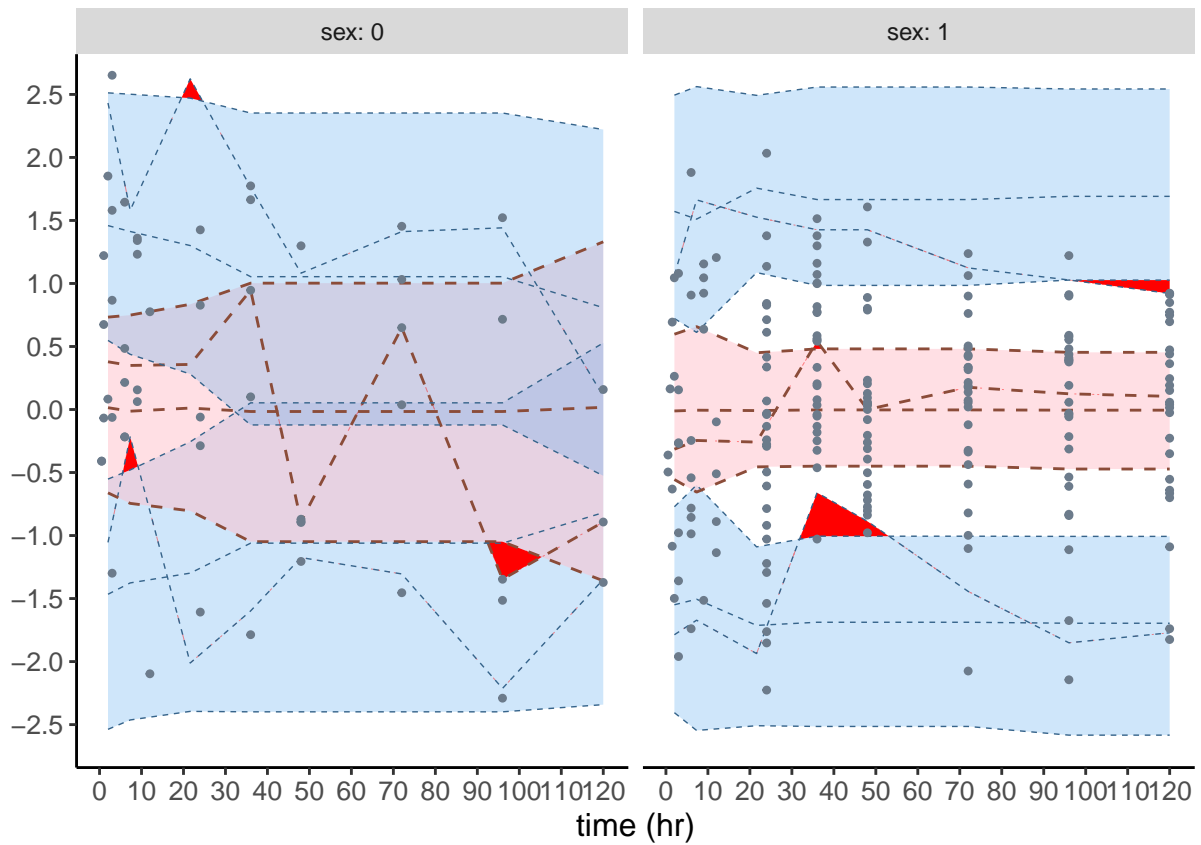
Debug functions

Debug auxiliary plots

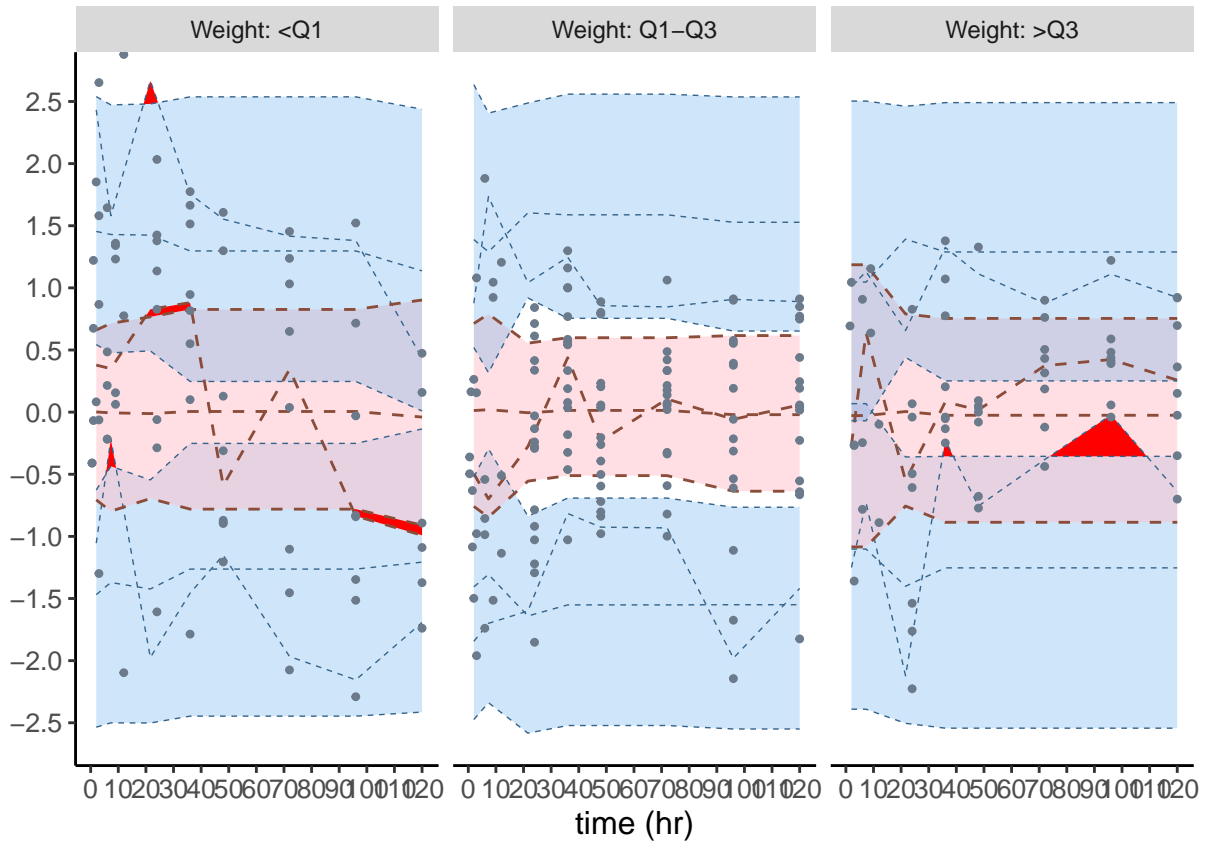
```
plot.opt2<-plot.opt  
aux.npdeplot.scatter(obs.nocov, pimat.nocov, plot.opt2)
```



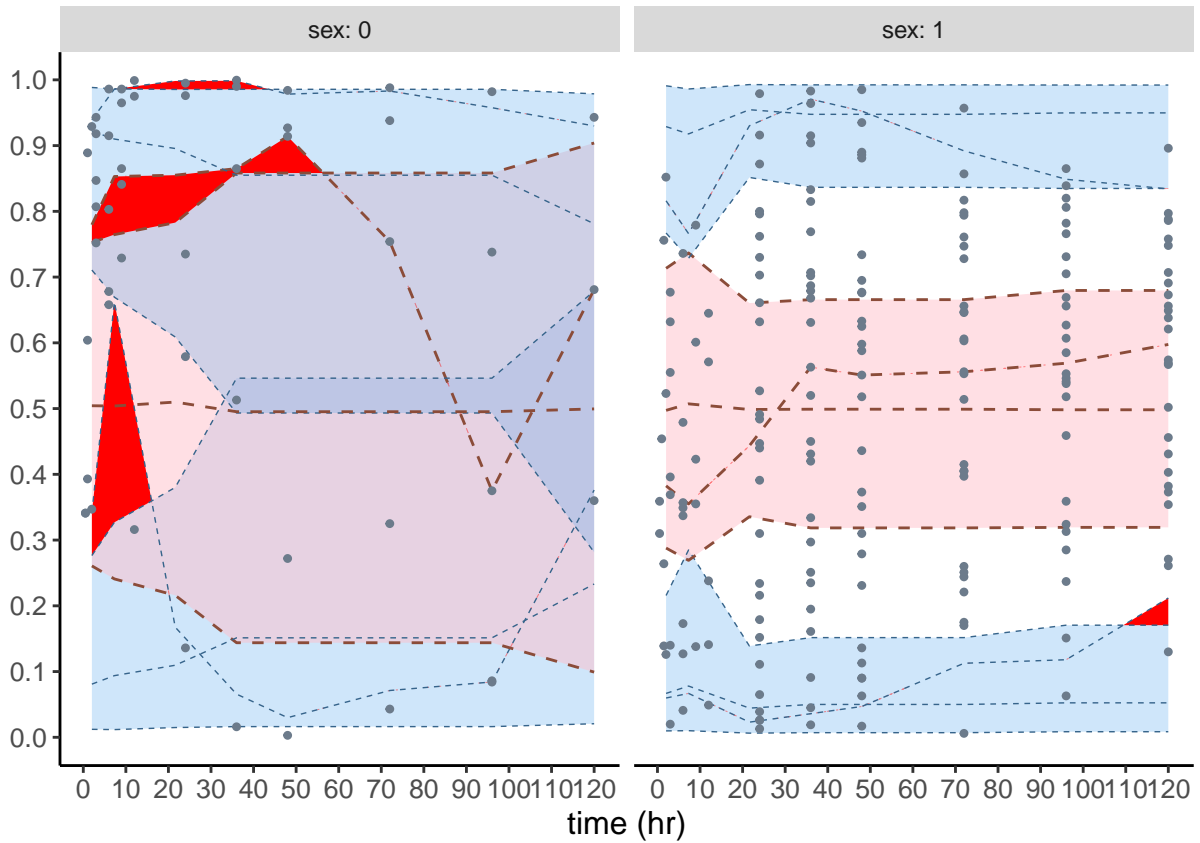
```
plot.opt2<-plot.opt  
plot.opt2$which.cov<-c("sex")  
plot.opt2$covsplit<-TRUE  
aux.npdeplot.scatter(obs.sex, pimat.sex, plot.opt2)
```



```
plot.opt2<-plot.opt
plot.opt2$which.cov<-c("wt")
plot.opt2$covsplit<-TRUE
aux.npdeplot.scatter(obs.weight, pimat.weight, plot.opt2)
```



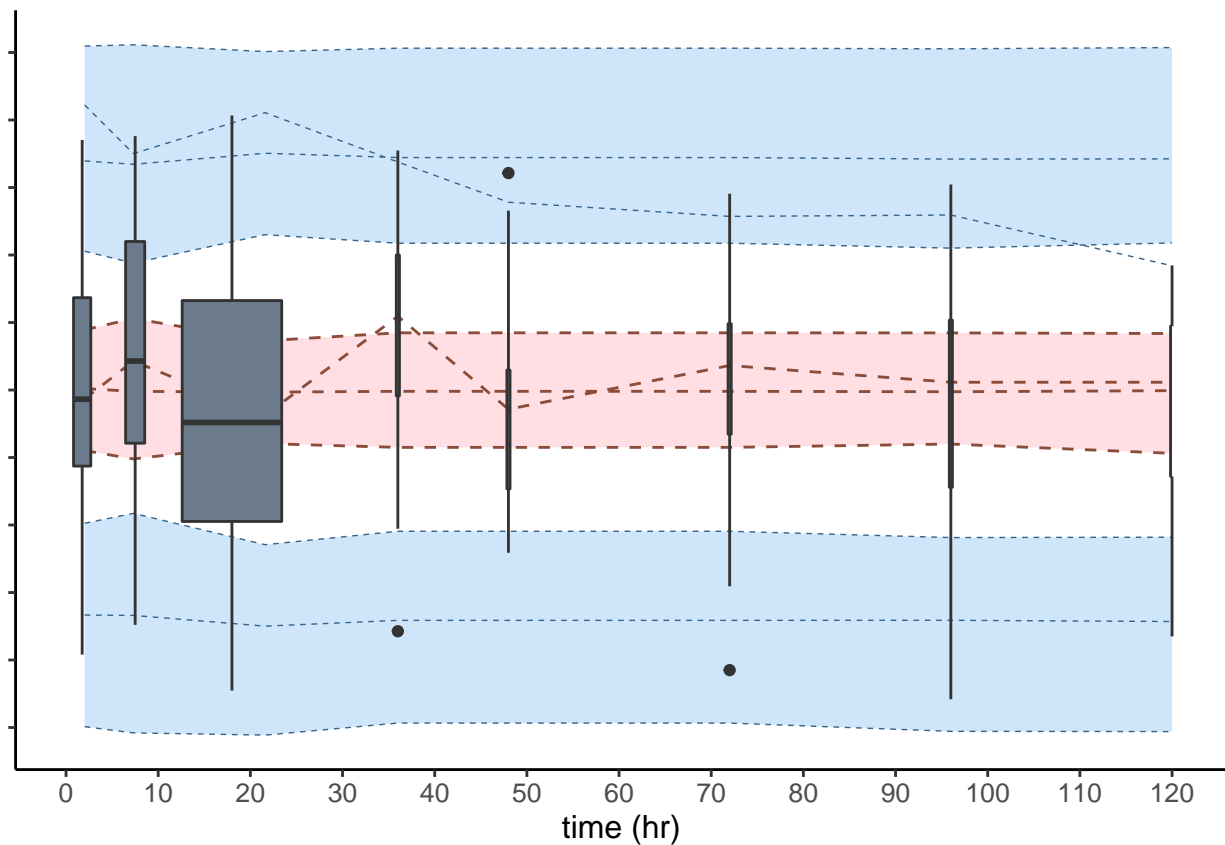
```
plot.opt2<-plot.opt
plot.opt2$which.cov<-c("sex")
plot.opt2$covsplit<-TRUE
aux.npdeplot.scatter(obspd.sex, pimat.pdsex, plot.opt2)
```



```
# box plots
plot.opt2<-plot.opt
plot.opt2$plot.box<-TRUE
aux.npdeplot.scatter(obs.nocov, pimat.nocov, plot.opt2)
```

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

```
## Warning: Removed 1 rows containing missing values (geom_segment).
```

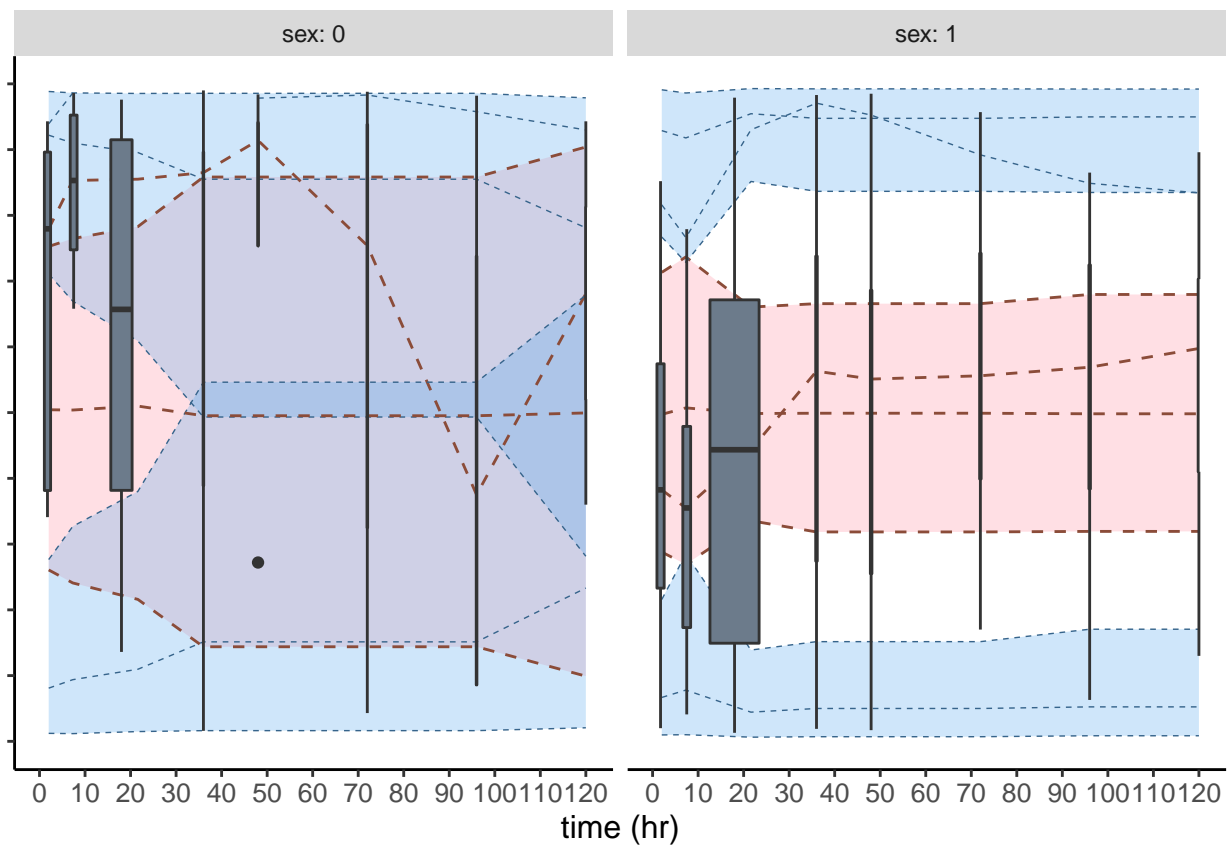


```
plot.opt2$which.cov<-c("sex")
plot.opt2$covsplit<-TRUE
aux.npdeplot.scatter(ospd.sex, pimat.pdsex, plot.opt2)
```

```
## Warning: Removed 5 rows containing non-finite values (stat_boxplot).
```

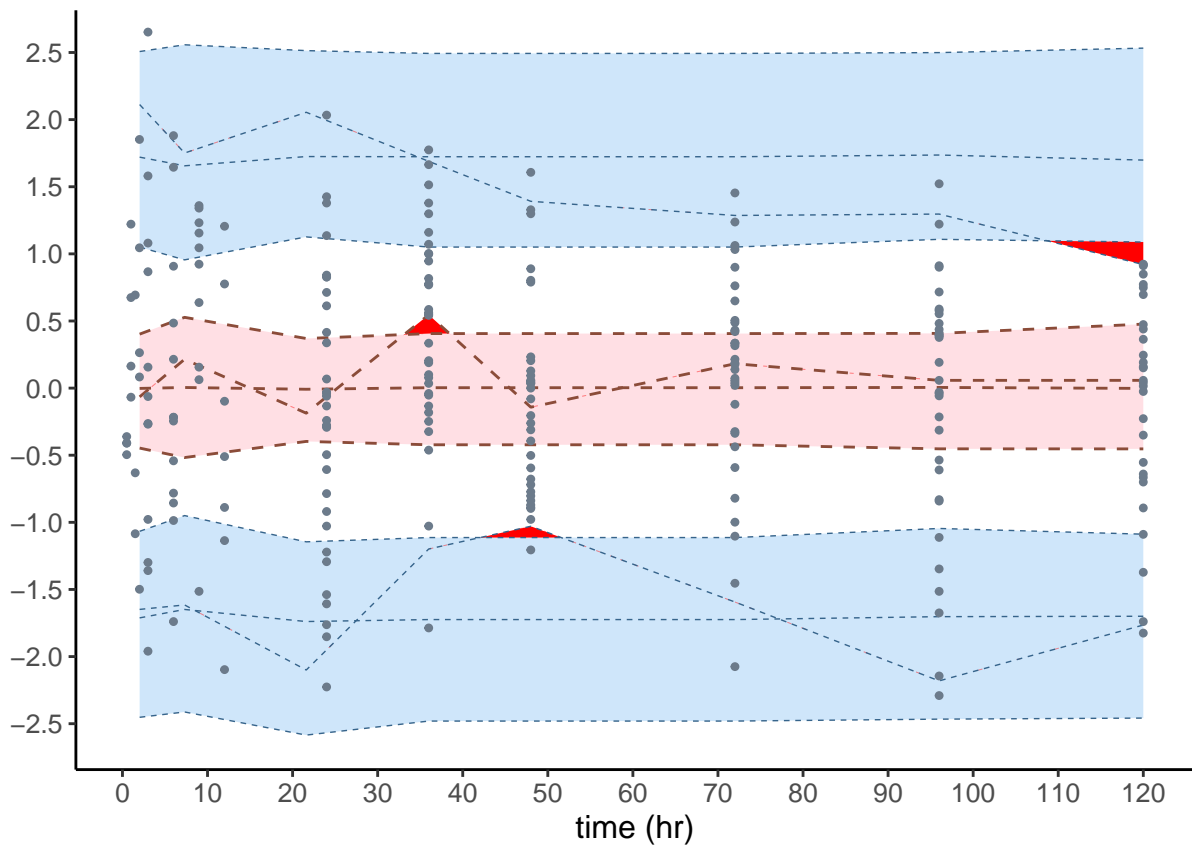
```
## Warning: Removed 1 rows containing missing values (geom_segment).
```

```
## Warning: Removed 1 rows containing missing values (geom_segment).
```

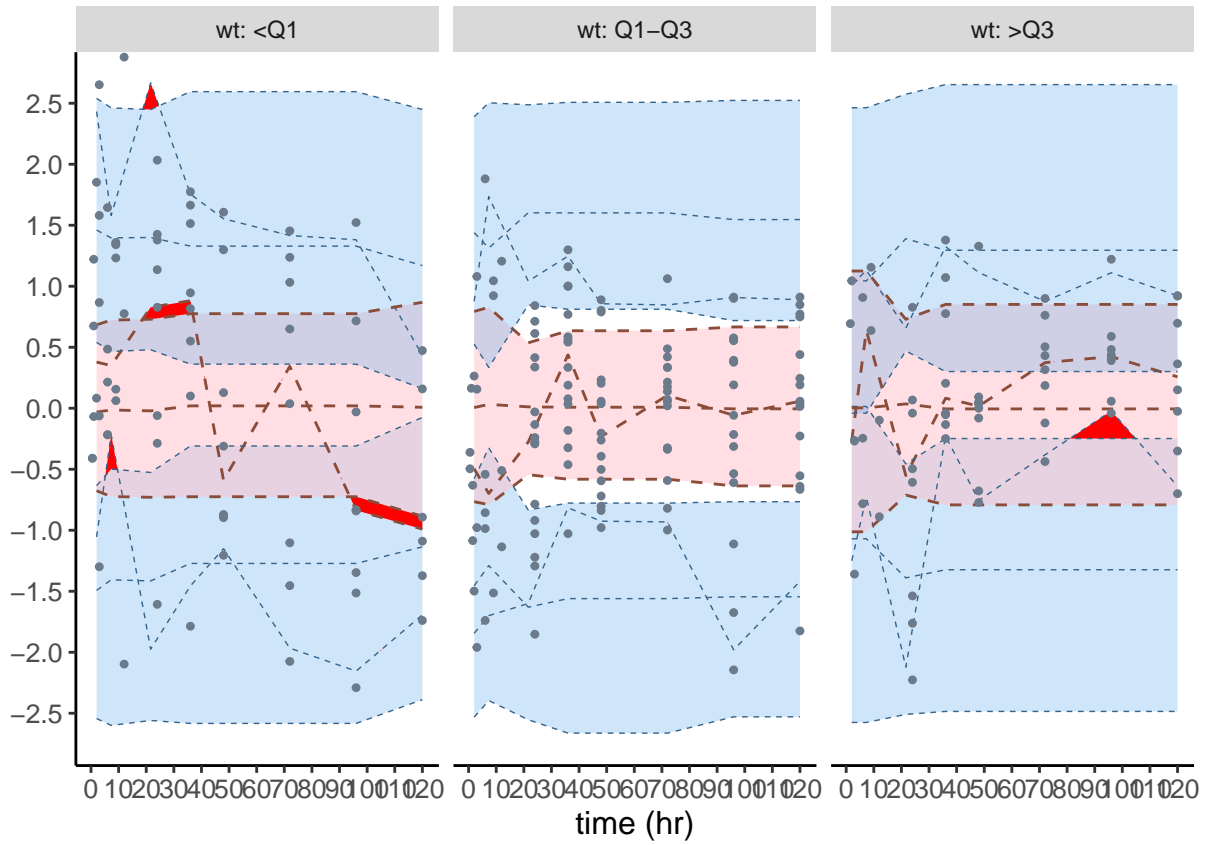


Debug main scatterplot function

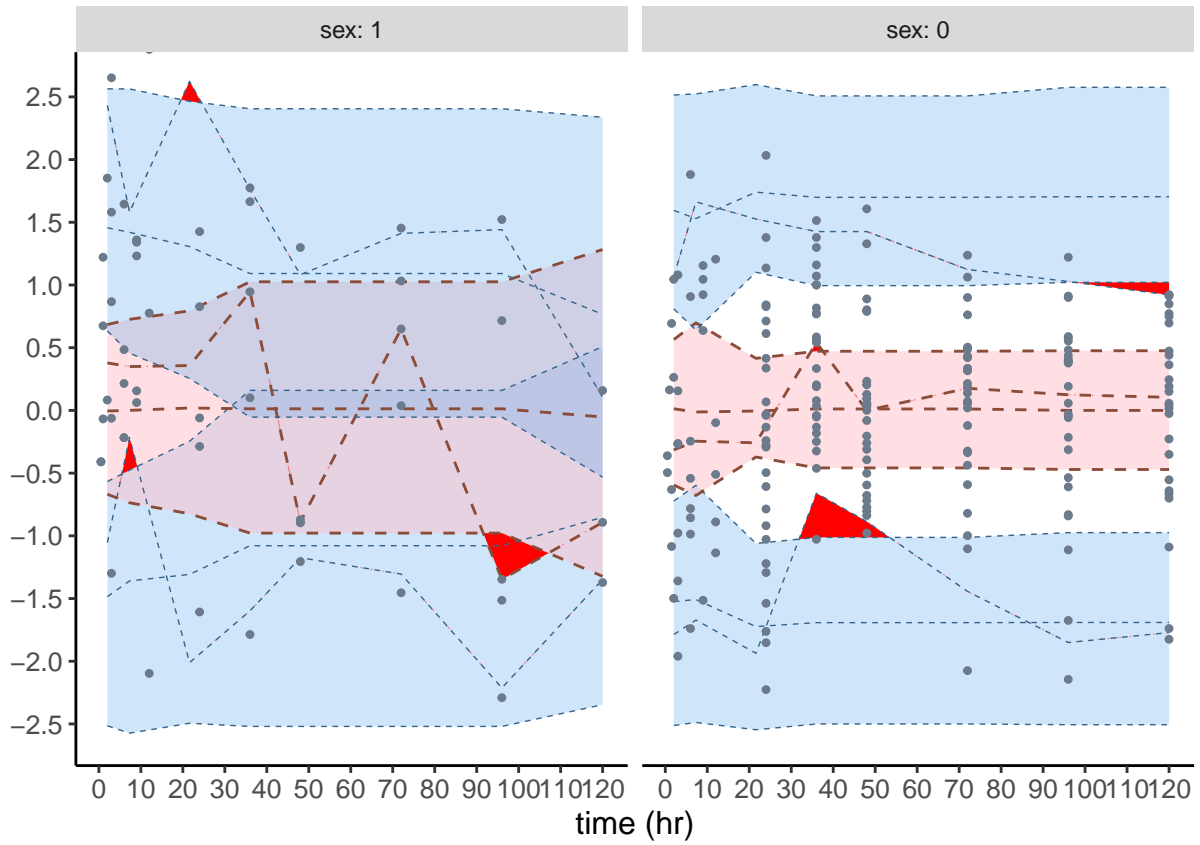
```
source(file.path(workDir, "npde", "R", "plotNpde-scatterplot.R")) # renamed from plotNpde-unitFunctionsAux
npde.plot.scatterplot(wbase, which.x="x", which.y="npde")
```



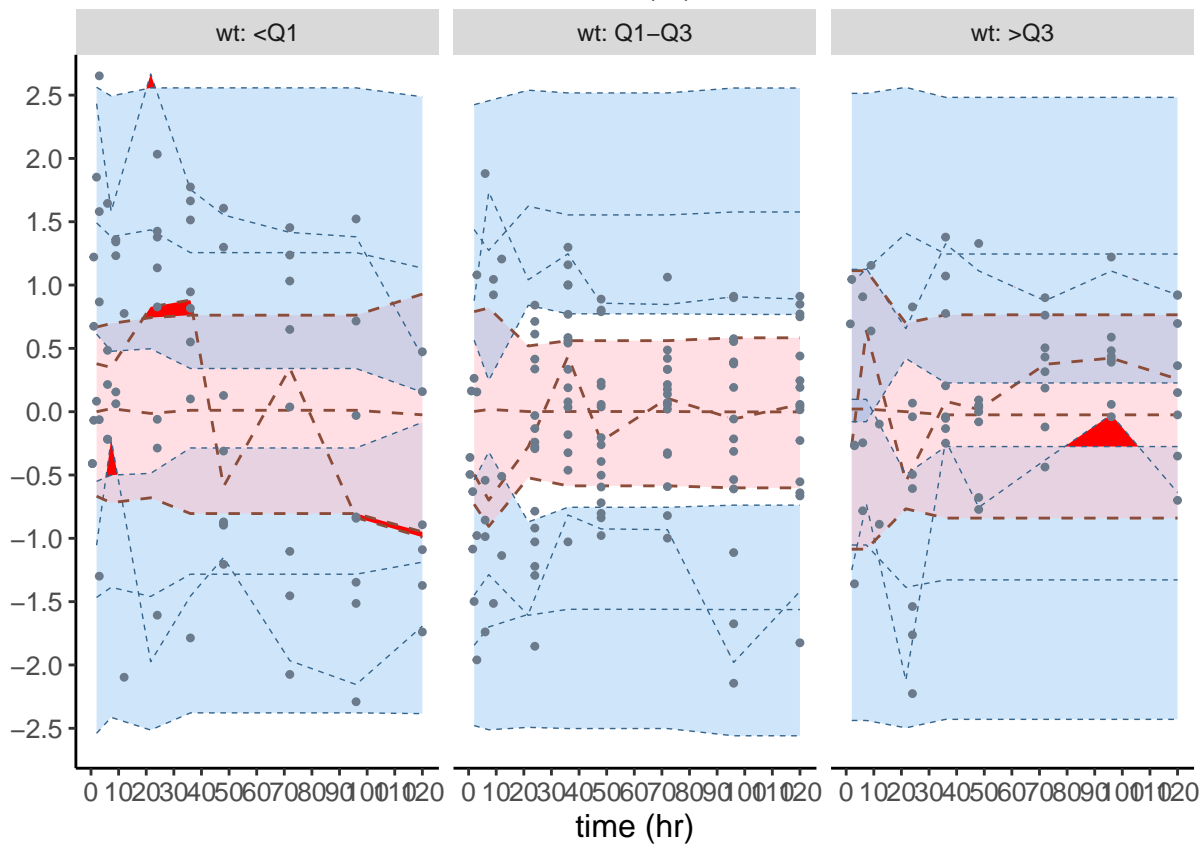
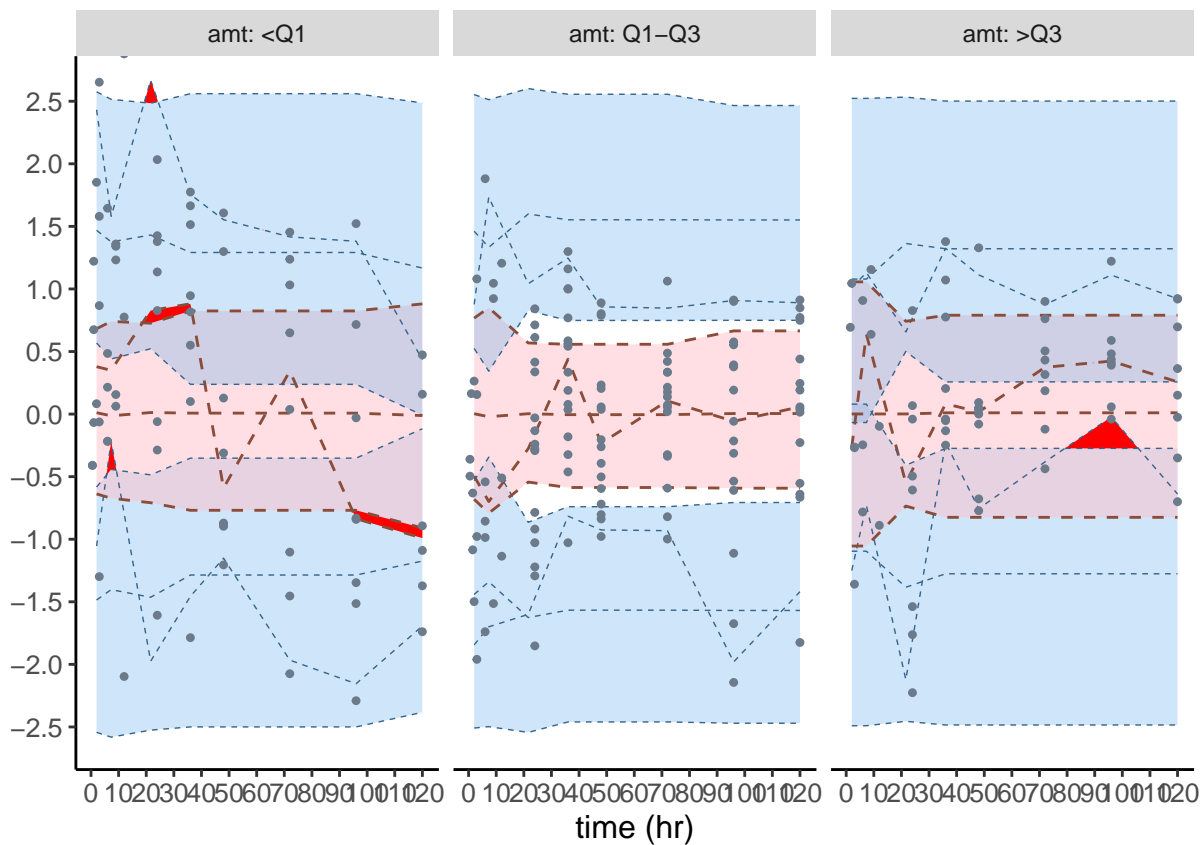
```
npde.plot.scatterplot(wbase, which.x="x", which.y="npde", covsplit=TRUE, which.cov=c("wt"))
```

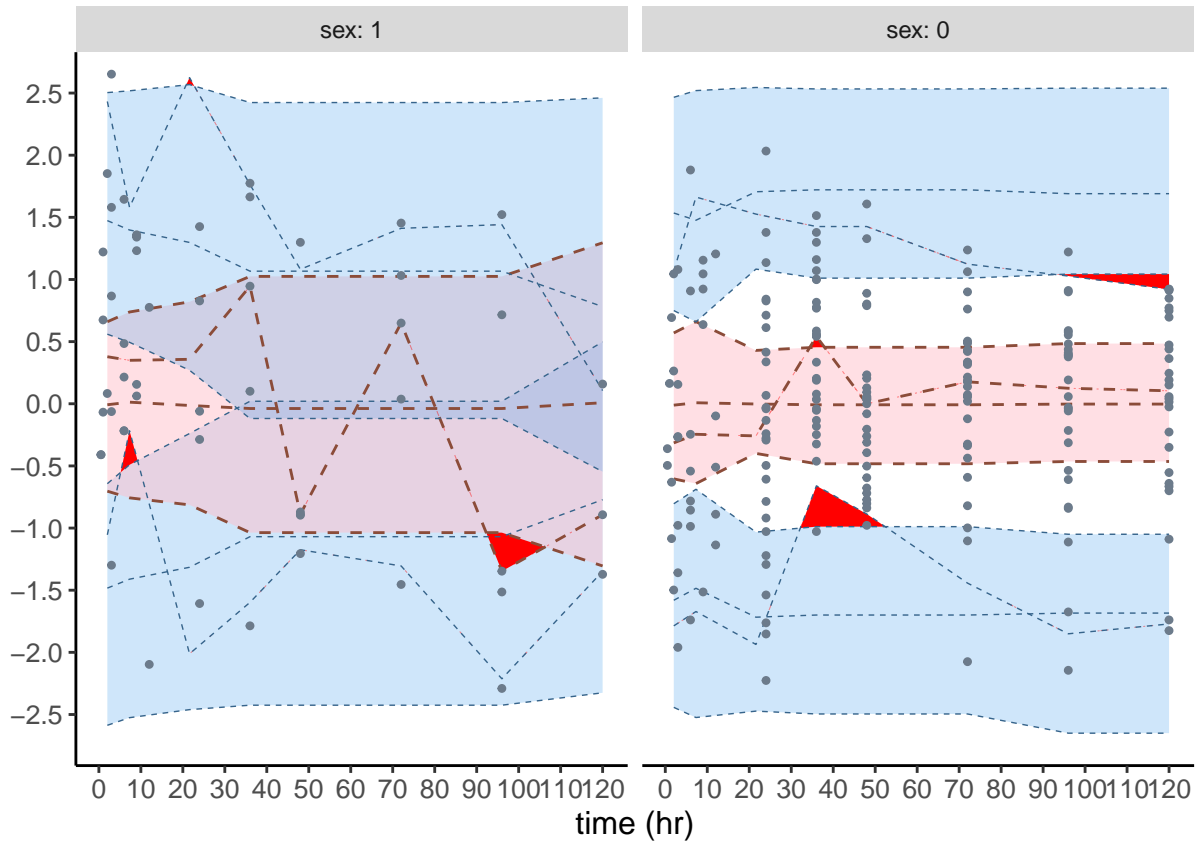



```
npde.plot.scatterplot(wbase, which.x="x", which.y="npde", covsplit=TRUE, which.cov=c("sex"))
```

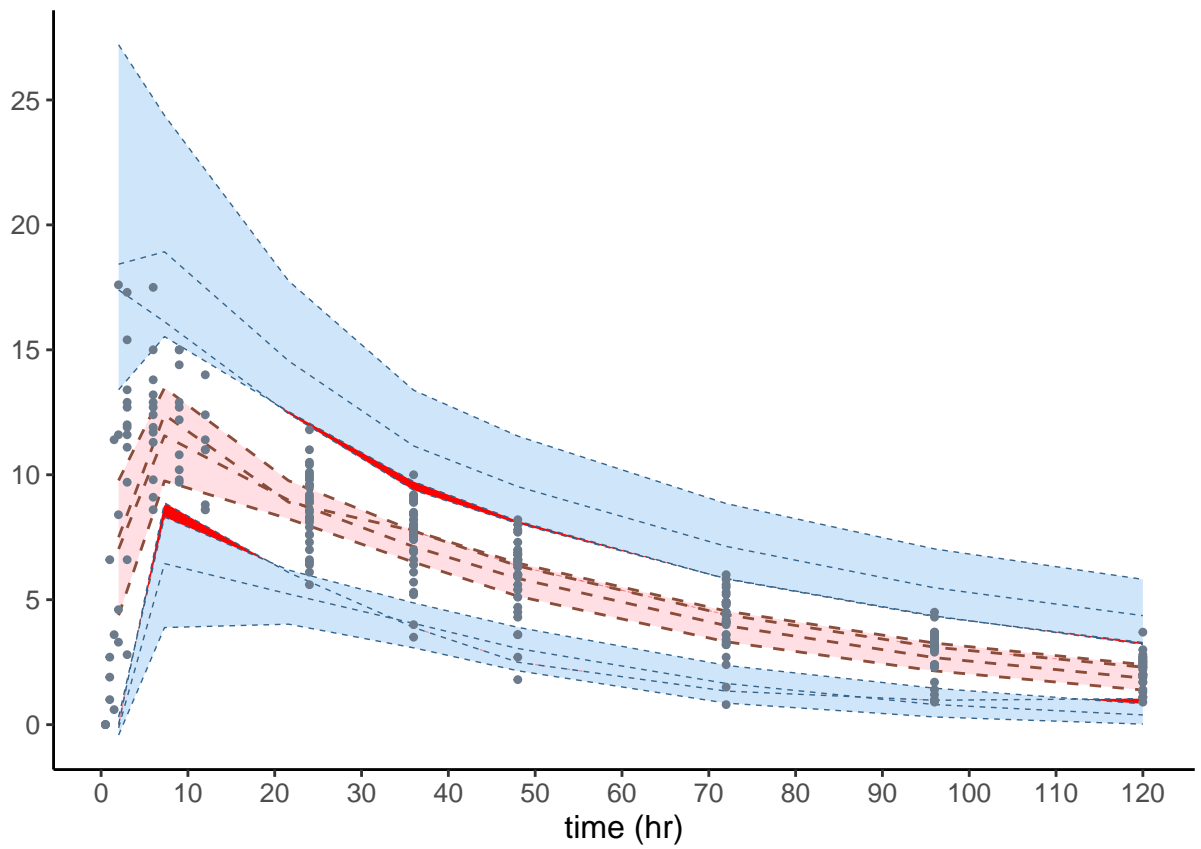


```
npde.plot.scatterplot(wbase, which.x="x", which.y="npde", covsplit=TRUE, which.cov=c("all"))
```

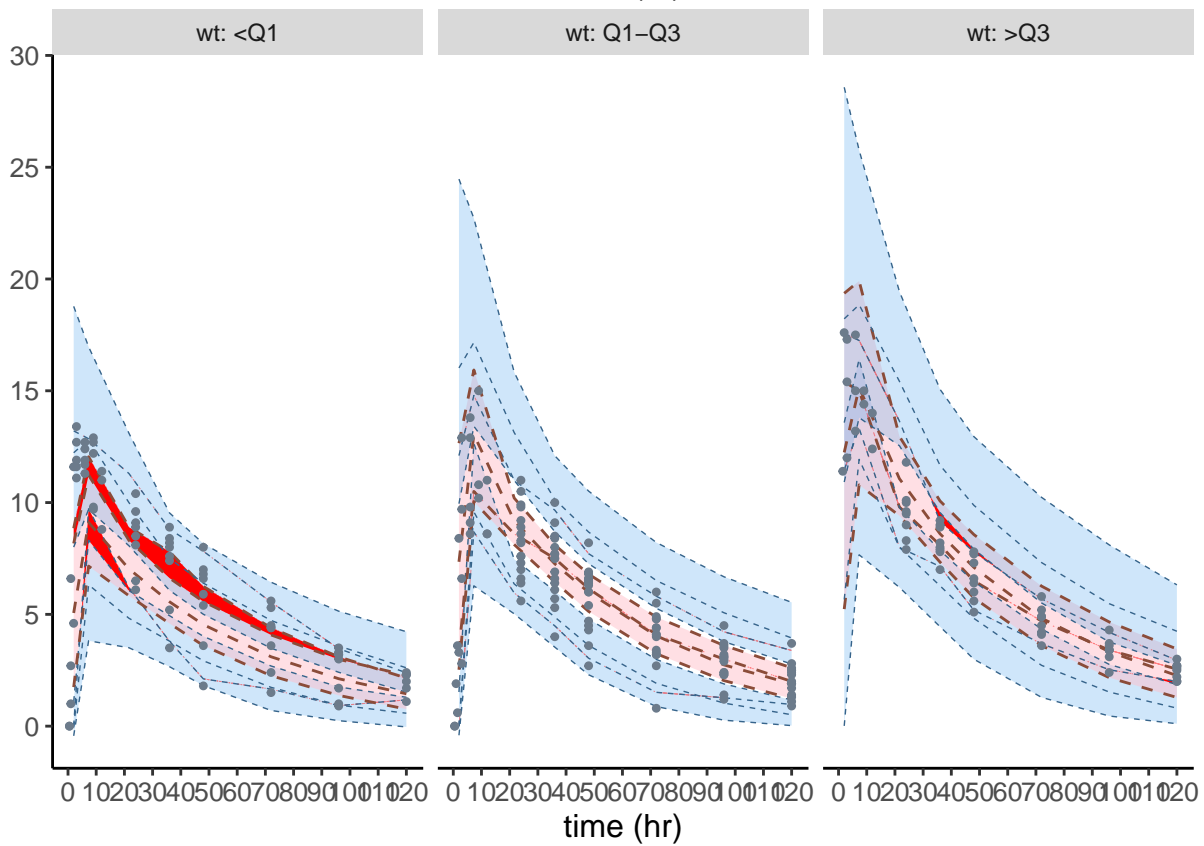
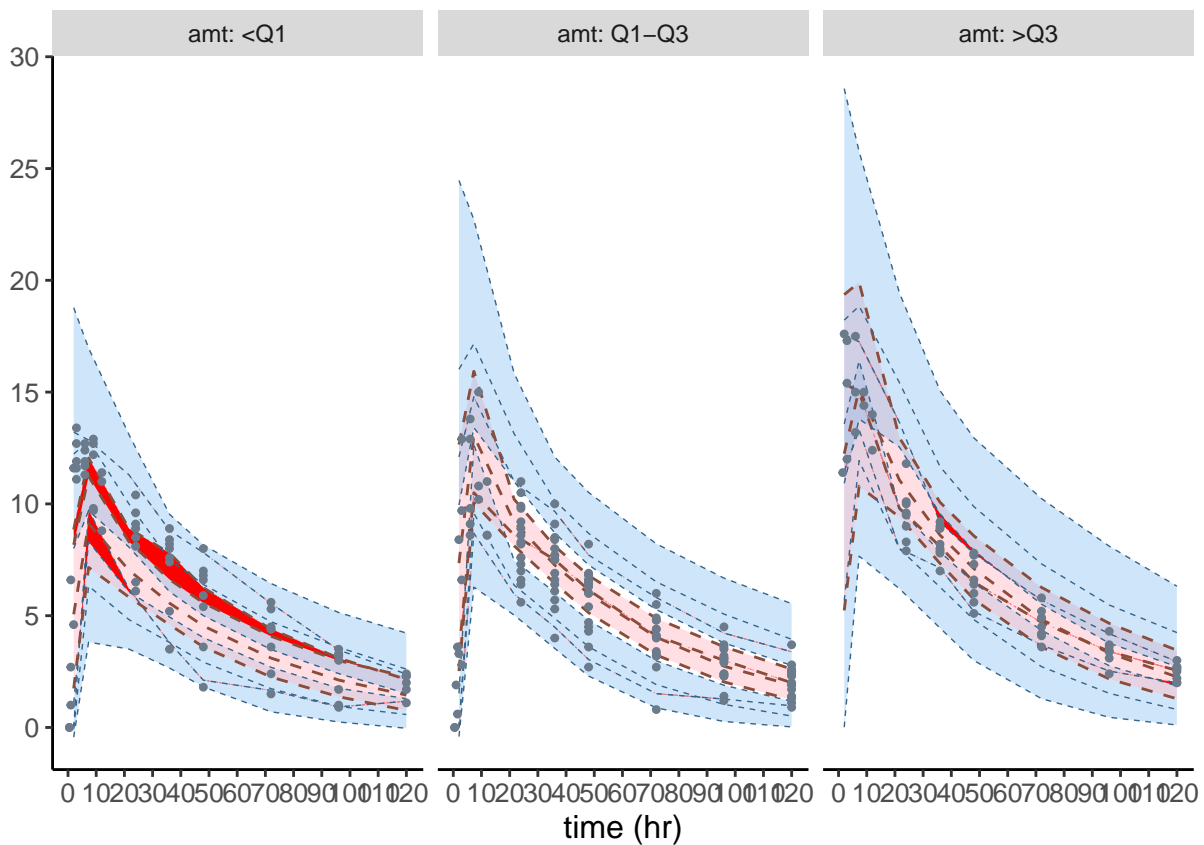


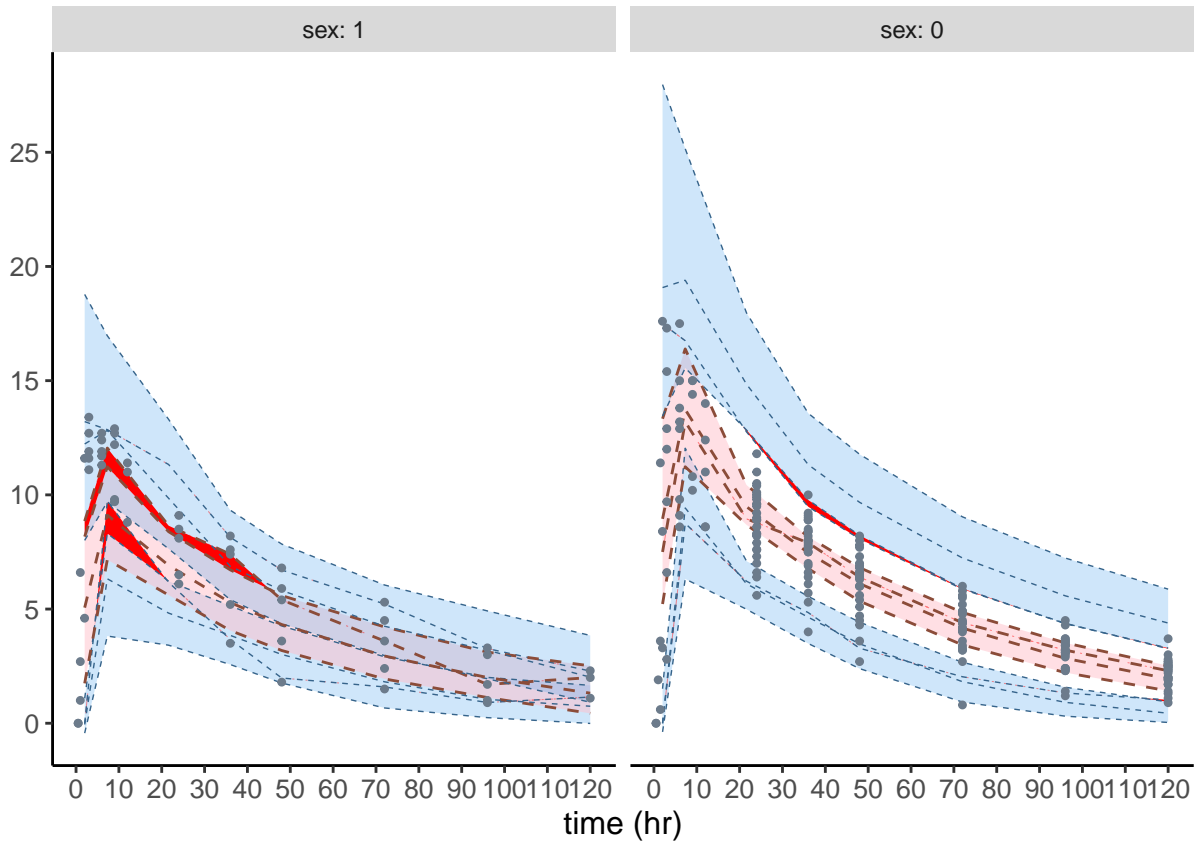


```
npde.plot.scatterplot(wbase, which.x="x", which.y="yobs")
```



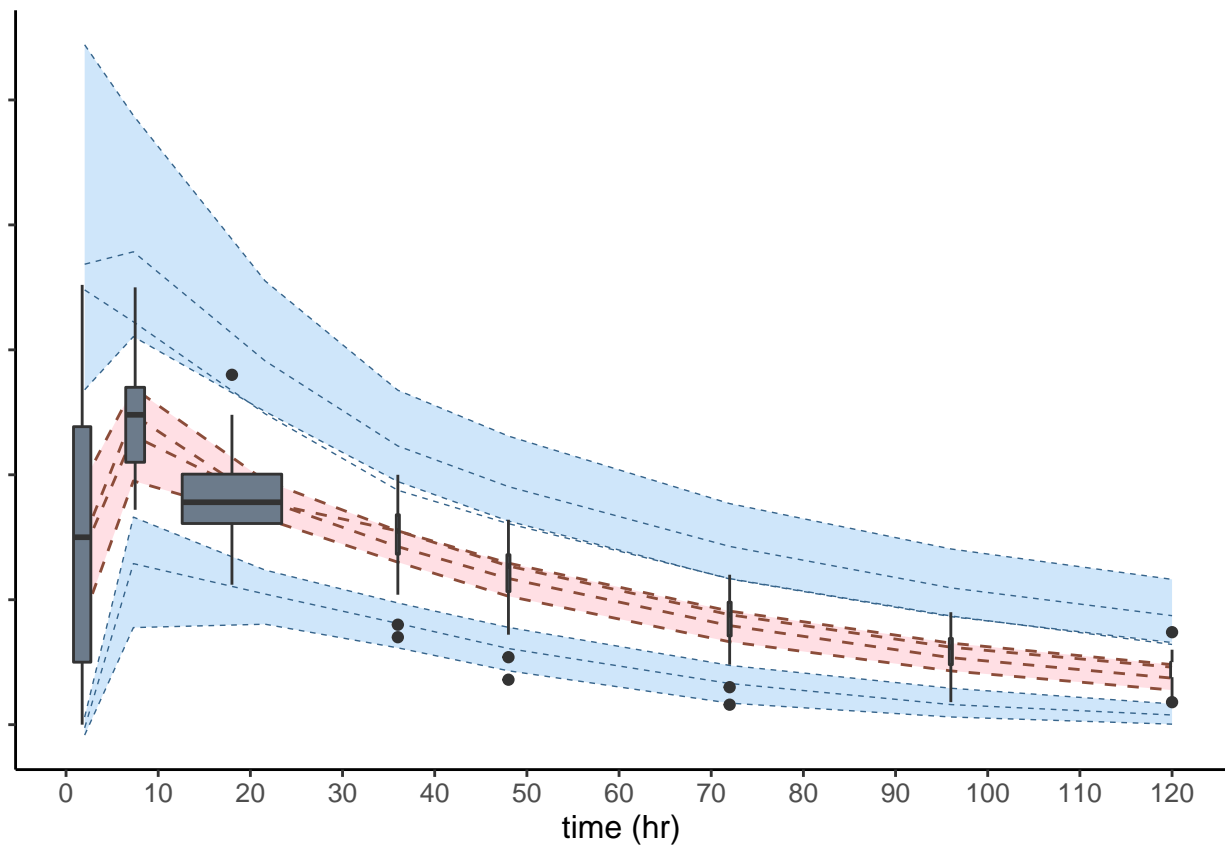
```
npde.plot.scatterplot(wbase, which.x="x", which.y="yobs", covsplit=TRUE)
```



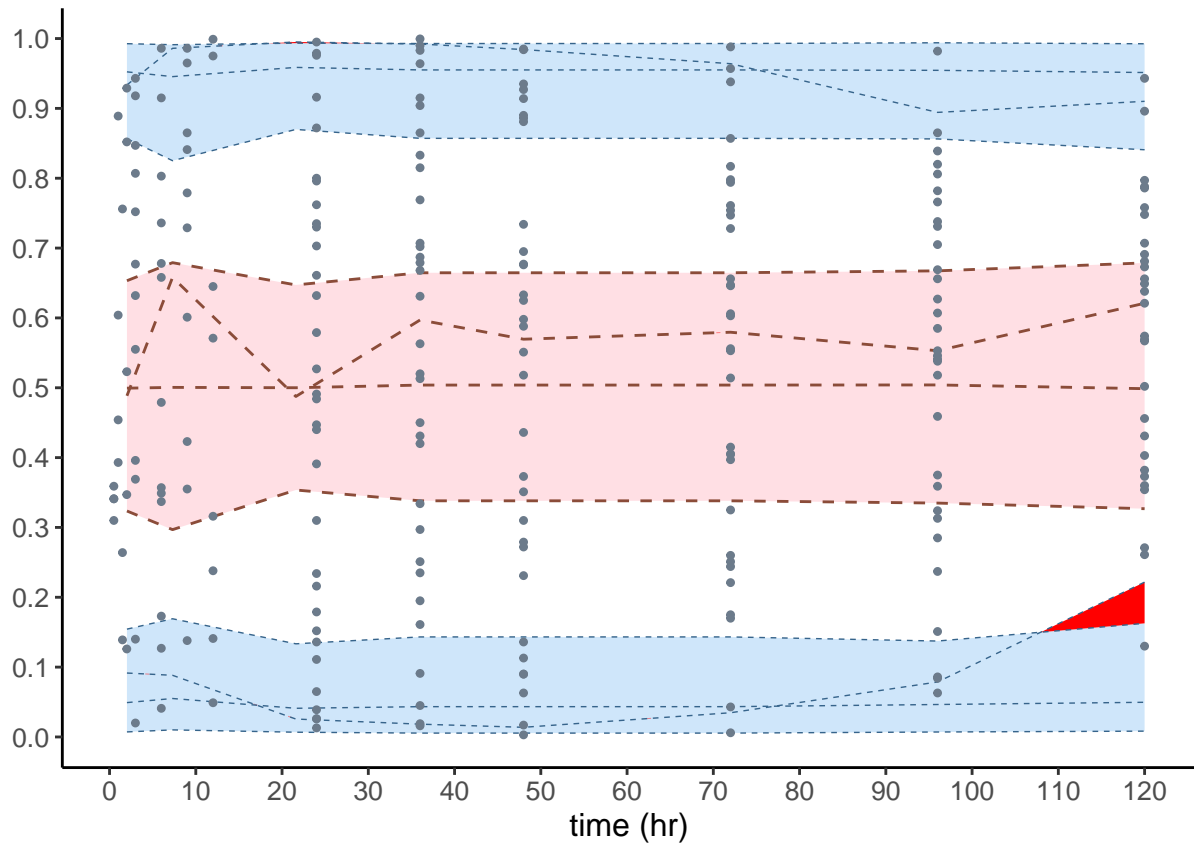


```
npde.plot.scatterplot(wbase, which.x="x", which.y="yobs", plot.box=TRUE)
```

```
## Warning: Removed 1 rows containing missing values (geom_segment).
```



```
npde.plot.scatterplot(wbase, which.x="x", which.y="pd")
```

```
npde.plot.scatterplot(wbase, which.x="x", which.y="npde", ref.prof=list(id=1))
```

```
## Not all time points/bins are represented in the subset used for the reference profile: spline interp
```

