Cross-over to High Quality Graphics:
Using SGRENDER to Enhance Graphics in a Cross-Over Study
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Introduction
We take a typical pharmacokinetics cross-over study as an example to show how proc template (SAS Version 9.3) can be utilised to build a template infrastructure for graphical outputs study-wide. The sgrender procedure references the required template to produce shells and final report quality graphics from study to study.

Graphical Process

- **Template**
  - proc template
  - define statgraph threepanel;
  - Graphic Template Language (GTL)
  - dynamic variables => increased flexibility and scope

- **SAP**
  - Figure shells
  - Use simulated or blinded partial data
  - proc sgrender calls the template

- **Final Figure**
  - High quality outputs
  - Gain insight into your data
  - proc sgrender calls the template

Dynamic Variables

Using sgrender, we apply the appropriate template to apply to our current data.

```
proc sgrender data=din3 template=threepanel;

dynamic
MAINTITLE = 'Summary of PK Parameters'
XVAR1_1 = 'PPSTRESS' /*X-axis var, 1st panel*/
YVAR1 = 'pccd1' /*Y-axis var, 1st panel*/
XVAR2 = 'geomean' /*X-axis var, 2nd panel*/
TABVALUES = 'CI95result' /*Numeric CIs on right*/
... <dynamic> = 'Name specific to your data'
run;
```

- Dynamic variables are similar to the arguments of a macro call.
- Increasing the number of dynamic variables increases the template’s utility across different data types and study types.

Features

- Achieve a customised layout;
- Statistical results can be included in the graphic;
- Better control over titles and labels;
- Can use company standard fonts;
- Can combine log and linear scales in different panels;
- Can combine different types of graphic (scatter plot and CI);
- sgrender easy code.

Discussion

- The use of SAS sgrender with dynamic variables increases the template’s utility across different data types and study types. For example, the PK concentration profile template could be used across Phase I studies but also might be used for PD markers or liver function plotted over time.
- The graphical templates language takes time to master (see handout for example code) to create a template.
- For quick exploratory graphics, we recommend sgpanel.

References