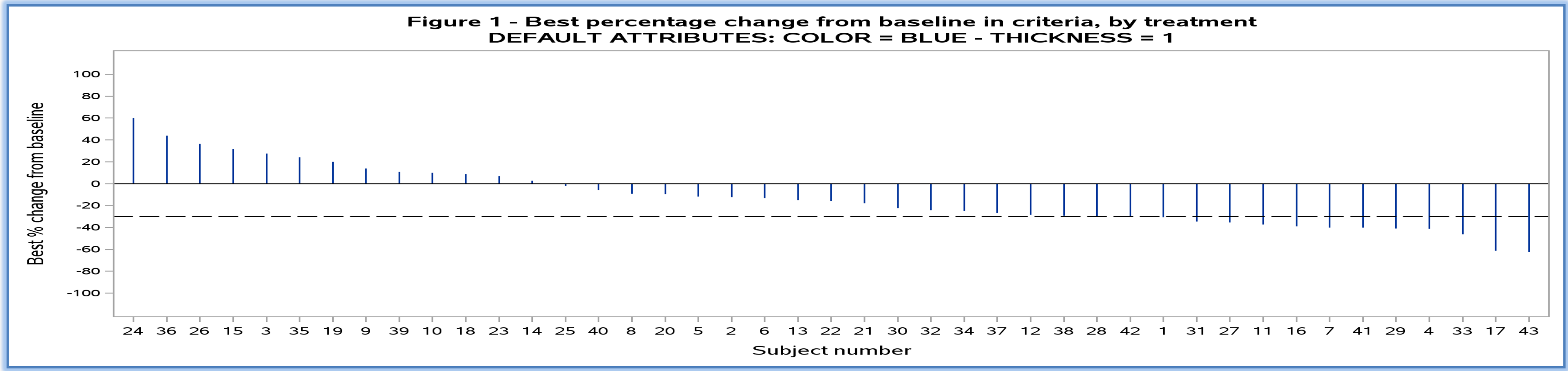


Stylizing your SAS graph – A needs-based approach

Jerome Lechere
Statistical Programming, Novartis Pharma, Basel
Switzerland
Email: jerome.lechere@novartis.com

When producing a SAS graph, the default rendering is determined by the ODS style associated with the active ODS destination. However SAS allows users to take control over each of the graphical attributes (color, symbol, line pattern...) to tailor results as per their needs. While a quick and partial control might be sufficient to generate a single graph, users may want to take full control over the graph procedures to produce numerous graphs in a consistent manner or to produce complex graphs. This paper should guide readers to use the most appropriate method in order to stylize a SAS graph.

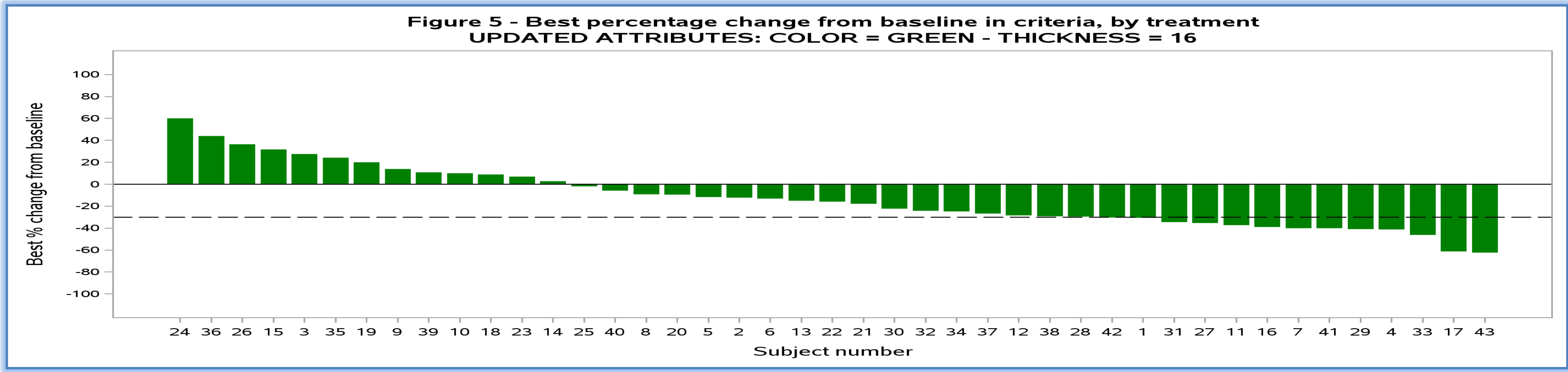
ATTRIBUTE OPTION



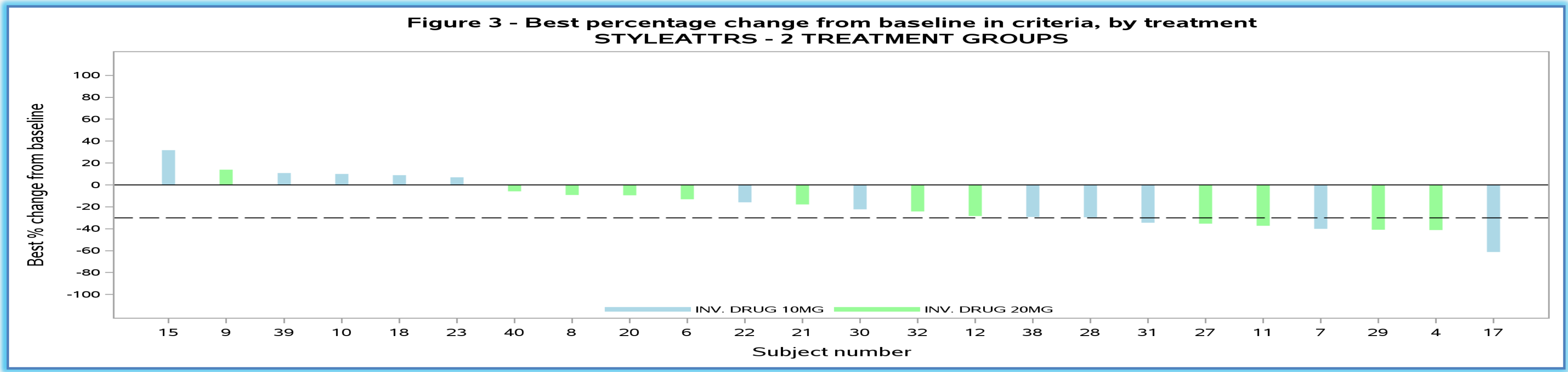
SG PROCEDURE
proc sgplot data=input ;
needleplot X=x Y=y / **Lineattrs=(color=green thickness=16);**
run;

GRAPH TEMPLATE LANGUAGE (GTL)
proc template;
define statgraph wfp;
begingraph /;
<...>
needleplot X=x Y=y / **Lineattrs=(color=green thickness=16);**
<...>
endgraph;
end;
run;

- QUICK AND EASY
- APPLIES TO ALL VALUES IN THE PLOT



STYLEATTRS STATEMENT

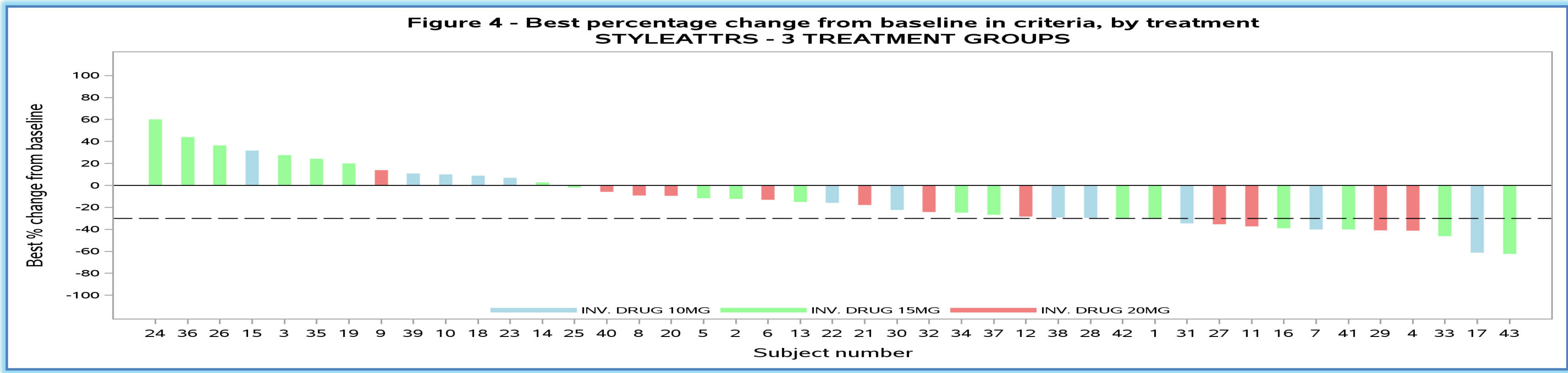


- The input dataset has subjects enrolled in 2 treatment groups, sorted as follow:
- INV. DRUG 10MG group
 - INV. DRUG 20MG group

SG PROCEDURE
proc sgplot data=input ;
styleattrs dataContrastColors=(LightBlue PaleGreen LightCoral);
needle x=x y=y / **group=trt_grp;**
run;

GRAPH TEMPLATE LANGUAGE (GTL)
proc template;
define statgraph wfp;
begingraph /
dataContrastColors=(LightBlue PaleGreen LightCoral);
<...>
needleplot x=x y=y / **group=trt_grp;**
<...>
endgraph;
end;
run;
proc sgrender
data=input
template=wfp;
run;

- THE VISUAL ATTRIBUTES INFORMATION IS HARDCODED WITHIN THE PROCEDURE
- THE RESULT IS DEPENDENT FROM THE INPUT DATASET

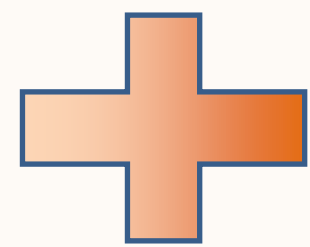


- The input dataset has subjects enrolled in 3 treatment groups, sorted as follow:
- INV. DRUG 10MG group
 - INV. DRUG 15MG group
 - INV. DRUG 20MG group

ATTRIBUTE MAP DATASET

GRAPH TEMPLATE LANGUAGE (GTL)
proc template;
define statgraph wfp;
begingraph /;
<...>
needleplot x=x y=y / **group=trt_grp;**
<...>
endgraph;
end;
run;

proc sgrender
data=input
template=wfp
dattrmap=attrds;
dattrvar trt_grp="trt";
run;

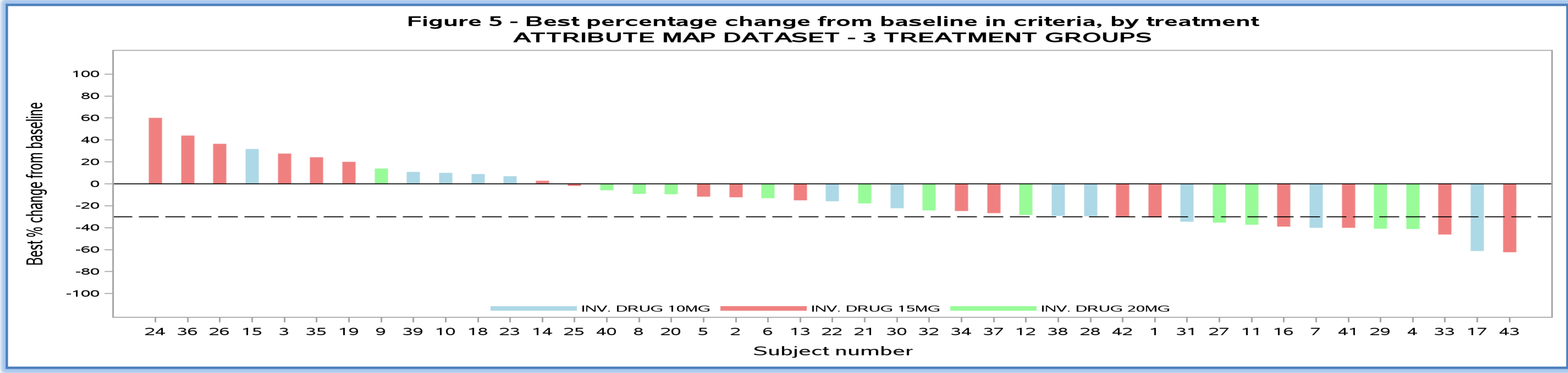


data attrds;
infile datalines delimiters=' ' missover;
length ID \$8 VALUE \$40 linecolor \$12;
input ID VALUE linecolor;
datalines;
trt,INV. DRUG 10MG,LightBlue
trt,INV. DRUG 15MG,LightCoral
trt,INV. DRUG 20MG,PaleGreen
;
run;

	ID	VALUE	linecolor
1	trt	INV. DRUG 10MG	LightBlue
2	trt	INV. DRUG 15MG	LightCoral
3	trt	INV. DRUG 20MG	PaleGreen



- THE VISUAL ATTRIBUTES INFORMATION IS STORED IN A DEDICATED DATASET
- THE RESULT IS INDEPENDENT FROM THE INPUT DATASET



CONCLUSION

Looking at a few SAS versions back, it used to be quite tedious to control graphical attributes, creating for instance an ANNOTATE dataset, or most recently using the TEMPLATE procedure to create new tailored ODS styles. With SAS 9.2, it became easier to stylize a graph. Several options are available to users:

- A quick and easy manner to proceed is to use an attribute option (e.g. lineattrs) from within the SG procedures.
- For graphs where a group variable is involved and users need to distinguish each group in the plot, it is recommended to abandon the attribute options to the favor of the Styleattrs statement.
- Finally, users are even given the possibility to externalize the graphical attributes information into a dedicated dataset (Attribute Map Dataset) in order to take full control over the graph appearance.



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