



Consistent Group Attributes Independent of Data Order

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Agenda

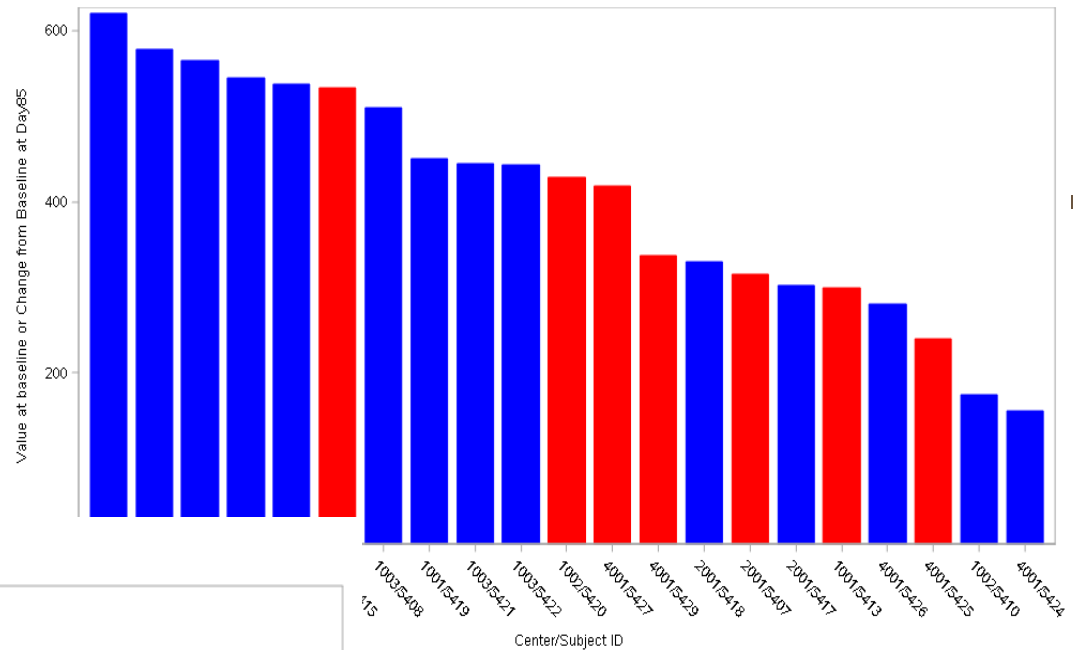
- Issue Description
- Solutions



waterfall.sas

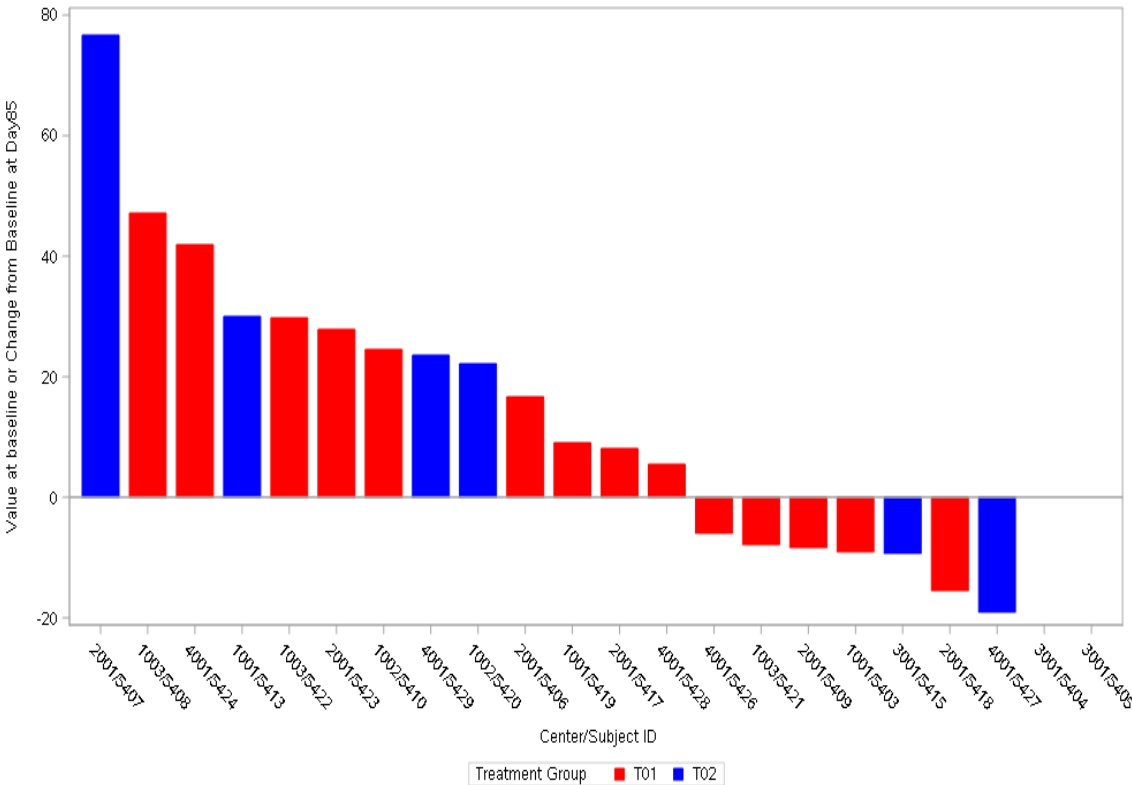
visitnum	subjid	am	visit	aval
1	2001/5423	T01	Baseline	620.2
1	4001/5428	T01	Baseline	577.5
1	2001/5406	T01	Baseline	565
1	2001/5409	T01	Baseline	544.2
1	1001/5403	T01	Baseline	538
1	3001/5415	T02	Baseline	533.1
1	1003/5408	T01	Baseline	510
1	1001/5419	T01	Baseline	450
1	1003/5421	T01	Baseline	444.6
1	1003/5422	T01	Baseline	443.1

Visit: Baseline



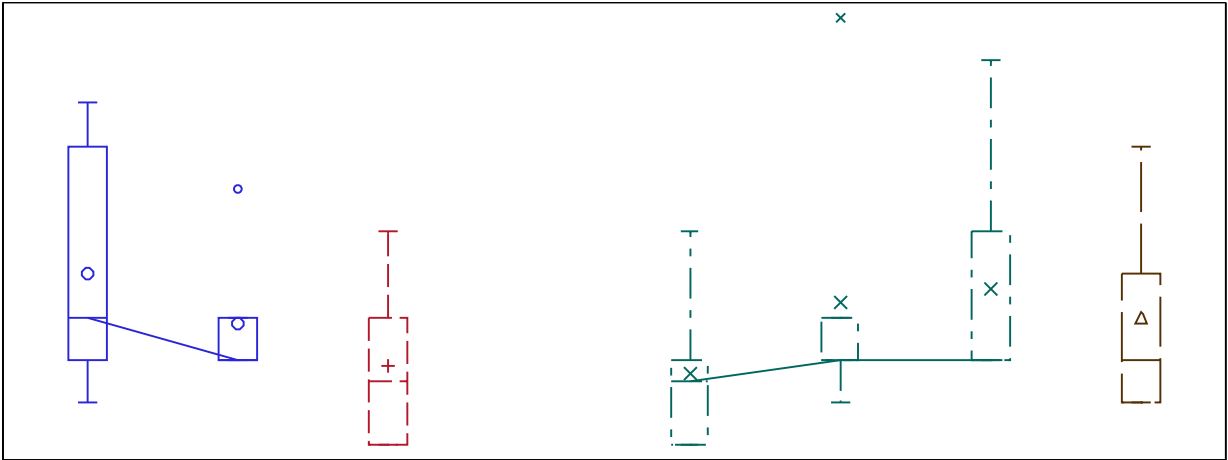
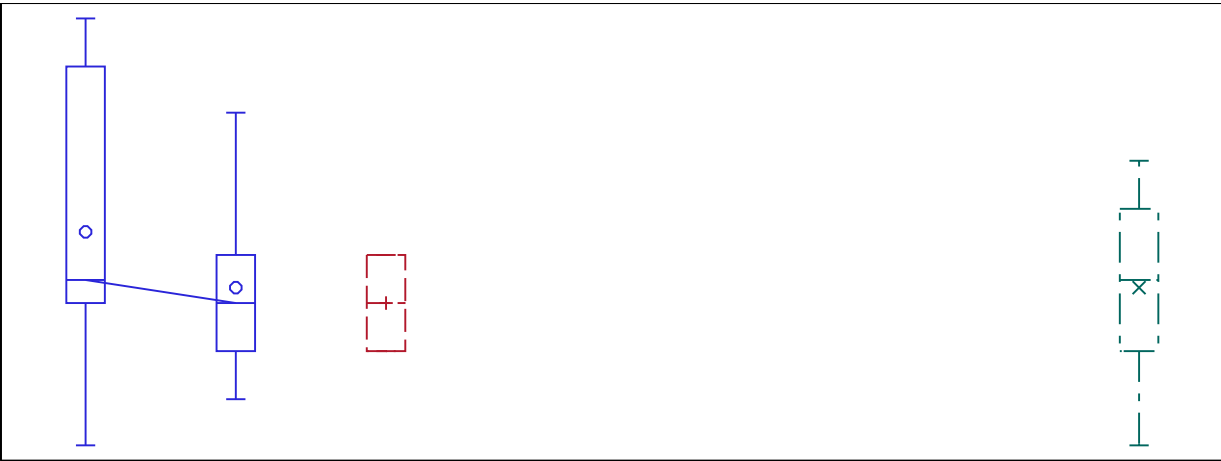
Waterfall plot of 6-mins walk (m) by visit

Visit: Day 85



visitnum	subjid	am	visit	aval
85	2001/5407	T02	Day 85	76.58
85	1003/5408	T01	Day 85	47.1
85	4001/5424	T01	Day 85	42
85	1001/5413	T02	Day 85	30
85	1003/5422	T01	Day 85	29.8
85	2001/5423	T01	Day 85	27.76
85	1002/5410	T01	Day 85	24.5
85	4001/5429	T02	Day 85	23.5
85	1002/5420	T02	Day 85	22.2
85	2001/5406	T01	Day 85	16.6

Issue Description



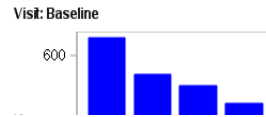
Solution

S1: Using the INDEX= option map group values to specific graphData style elements

```
proc template;
  define style styles.graph_pharmasug ;
  parent = styles.statistical ;
  style GraphData1 / contrastcolor = blue color = blue;
  style GraphData2 / contrastcolor = red color = red;
  end ;
run;
```

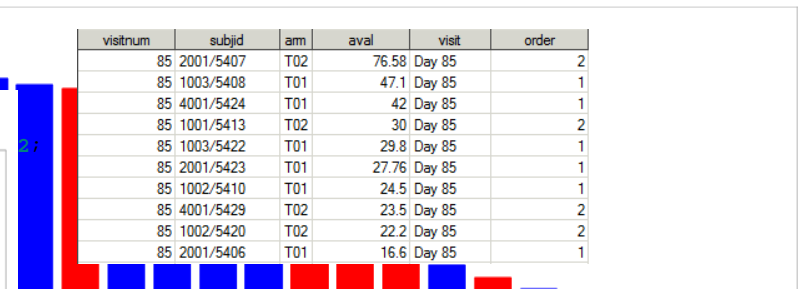
visitnum	subjid	arm	aval	visit
1	1001/5403	T01	538	Baseline

Waterfall plot of 6-mins walk (m) by visit-Method1 (INDEX= OPTION)

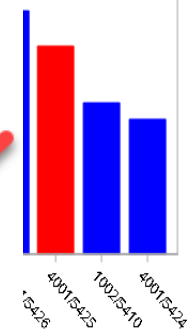
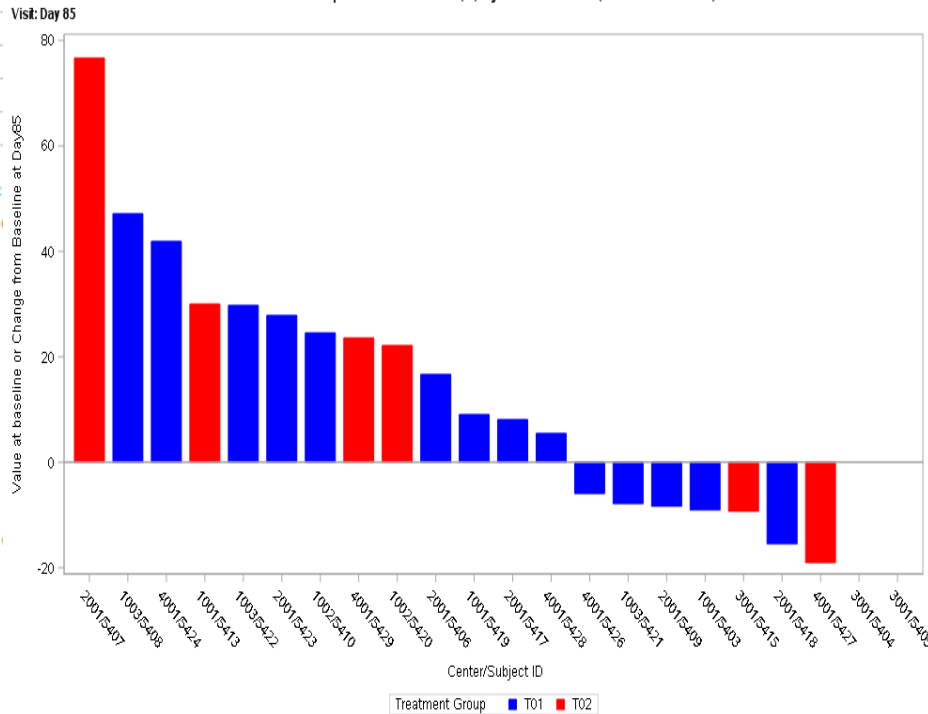


Waterfall plot of 6-mins walk (m) by visit-Method1 (INDEX= OPTION)

visitnum	subjid	arm	aval	visit	order
85	2001/5407	T02	76.58	Day 85	2
85	1003/5408	T01	47.1	Day 85	1
85	4001/5424	T01	42	Day 85	1
85	1001/5413	T02	30	Day 85	2
85	1003/5422	T01	29.8	Day 85	1
85	2001/5423	T01	27.76	Day 85	1
85	1002/5410	T01	24.5	Day 85	1
85	4001/5429	T02	23.5	Day 85	2
85	1002/5420	T02	22.2	Day 85	2
85	2001/5406	T01	16.6	Day 85	1



```
od1 (INDEX= OPTION)" ;
sit.";
='bar' orient=vertical barwidth=0.8
)=arm grouporder=ascending index=order;
```



Solution

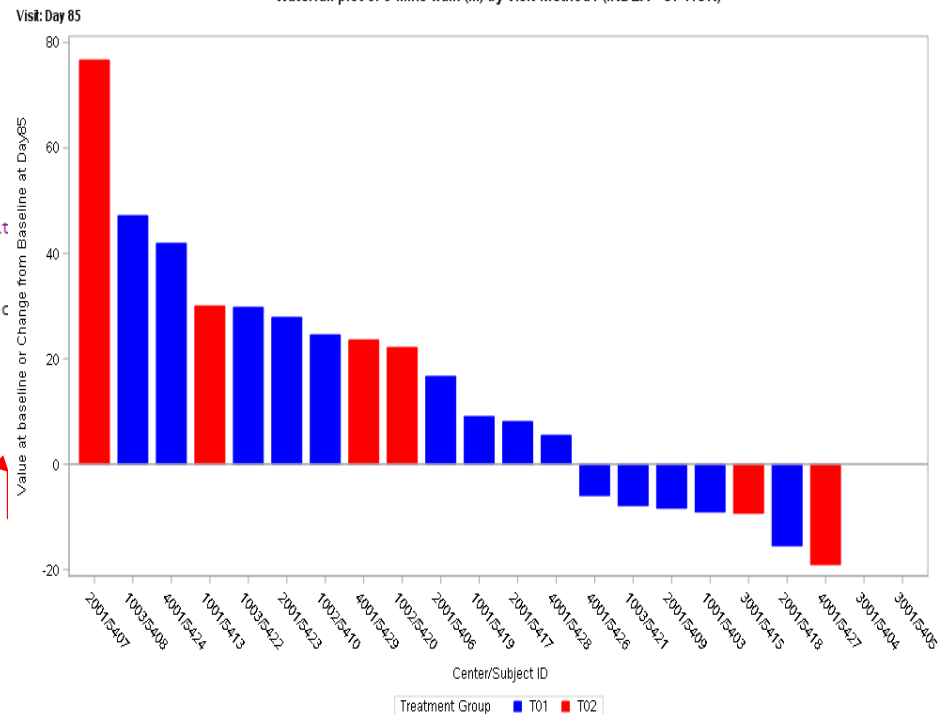
S2: Defining Discrete Attribute Map for Specific Group Values

■ Solution 2.1: defined in SAS dataset

```
data attrmap;  
length ID VALUE FILLCOLOR LINECOLOR LINEPATTERN $15;  
input ID$ VALUE$ FILLCOLOR$ LINECOLOR$ LINEPATTERN$;  
datalines;  
attr4group T01 blue blue solid  
attr4group T02 red red solid  
;  
run;  
  
proc template;  
define statgraph f_waterfall_attr_dataset;  
begingraph /designwidth=1000px designheight=600px;  
entrytitle "Waterfall plot of 6-mins walk (m) by visit-Method2 (At  
entrytitle halign=left textattrs=(size=9pt) "Visit: &visit.";  
layout overlay;  
barchart category=subjid response= aval / name='bar' c  
discretelegend "bar"/ title="Treatment Group";  
endlayout;  
endgraph;  
end;  
run;  
  
proc sgrender data=report&p. template = f_waterfall_attr_dataset  
dattrvar arm="attr4group";  
run;
```

ID	VALUE	FILLCOLOR	LINECOLOR	LINEPATTERN
attr4group	T01	blue	blue	solid
attr4group	T02	red	red	solid

Waterfall plot of 6-mins walk (m) by visit-Method1 (INDEX= OPTION)



Solutions

S2: Defining Discrete Attribute Map for Specific Group Values

■ Solution 2.2: defined in template

```
proc template;
  define statgraph waterfall_attr_template;
    begingraph /designwidth=1000px designheight=600px;
      /*step1: define attributes map in descreateattrmap block: attribute map name is: attrmap*/
      discreteattrmap name="attrmap" / ignorecase=true;
        value "T01" /FILLATTRS=GraphData1(color=blue)    lineattrs =GraphData1(color=blue pattern=solid) ;
        value "T02" /FILLATTRS=GraphData2(color=red)    lineattrs =GraphData2(color=red pattern=solid);
      enddiscreteattrmap;

      /*step2: call attribute map: create new attributes variable(attr4group) to link the original
      treatment group ARM */
      discreteattrvar attrvar=attr4group var=arm attrmap="attrmap";

      entrytitle "Waterfall plot of 6-mins walk (m) by visit-Method2 (Attributes map defined in template)" ;
      entrytitle halign=left textattrs=(size=9pt) "Visit: &visit.";
      layout overlay;
      /*step3: use the new grouped variable attr4group instead of original grouped variable ARM*/
      barchart category=subjid response= aval / name='bar' orient=vertical barwidth=0.8
        group=attr4group grouporder=ascending;
      discretelegend "bar"/ title="Treatment Group";
    endlayout;
  endgraph;
end;
run;
```

Summary

Solutions	Steps
<p>Use INDEX= option</p>	<p>Step1: Add a numeric variable, i.e., order in this example to map group values to GraphData style:</p> <p style="padding-left: 40px;">order= 1 -> treatment T01</p> <p style="padding-left: 40px;">order= 2 -> treatment T02</p> <p>Step2: Apply INDEX=order in the barchart statement in GTL, to link GraphData1 style to T01, GraphData2 style to T02.</p>
<p>Use a discrete attribute map</p>	<p>Attribute Map is defined in SAS dataset</p> <p>Step1: Create attribute map SAS datasets (i.e., attributes map name) to specify group attributes (i.e., attributes variables) for each group values;</p> <p>Step2: Call attribute map dataset and attribute map variable in SGRENDER procedure.</p>
	<p>Attribute Map is defined in template</p> <p>Step 1: Define the attribute map in DISCRETEATTRMAP block to specify group appearances.</p> <p>Step 2: Call the attribute map and link the source grouped variable and newly created attribute variable to map the attribute to each group based on the group values.</p> <p>Step 3: Update the GROUP=option as the newly create attribute variable and create graph.</p>

Q & A