

MULTILABEL OPTION – VALUABLE ADDITION TO PROC FORMAT (FREQUENCY ANALYSIS WITH MULTILABEL FORMATS)

Presentation CS03

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OUTLINE



- **MULTILABEL FORMATS**
- PROC MEANS/SUMMARY WITH MLF OPTION
- PROC TABULATE WITH MLF OPTION
- PROC REPORT WITH MLF OPTION
- CNTLIN DATASETS AND MULTILABEL FORMATS
- CONCLUSION

MULTILABEL FORMATS

```
proc format;  
  value ONE  
    0 - 5 = "Under 5"  
    0 - 9 = "Under 9";  
  value TWO  
    1 = "One"  
    1 = "Again One";  
run;
```

Format **ONE** specifies overlapping ranges

Format **TWO** assigns different labels to identical values

INPUT DATASET

	studyid	patient	sex	trt	age	weight	height
1	10001	1	Female	Treatment	74	52.9	163
2	10001	2	Female	Placebo	28	54.2	152
3	10001	3	Male	Treatment	71	75.5	156
4	10001	4	Female	Placebo	32	67.5	171
5	10001	5	Male	Treatment	37	59.3	174
6	10001	6	Male	Placebo	11	66.3	154
7	10001	7	Female	Treatment	4	55.6	176
8	10001	8	Male	Placebo	54	77.7	172
9	10001	9	Male	Treatment	38	66.5	163
10	10001	10	Female	Placebo	5	58.7	158
11	10001	11	Female	Treatment	80	52.4	174
12	10001	12	Male	Placebo	96	67.7	150
13	10001	13	Male	Treatment	65	52.6	158
14	10001	14	Female	Placebo	34	65.4	166
15	10001	15	Male	Treatment	34	73.3	163

DESIRED TABLE

Number of Patients by Age Group

Age Group	Placebo	Treatment
Children (under 18)	x	x
Adult (18 and above)	x	x
Under 25	x	x
Under 50	x	x
Under 75	x	x
Above 100	x	x

RESULTING TABLE

Frequency

Table of group by trt			
group	trt		
	Placebo	Treatment	Total
Under 50	3	3	6
Under 75	4	6	10
Adult (18 and above)	5	7	12
Children (under 18)	2	1	3
Total	14	17	31

```
data demol;
  set phuse.demo;
  length group $20 ;
  if 0 < age < 18 then do;
    group = "Children (under 18)";
    output ;
  end;
  if age >= 18 then do;
    group = "Adult (18 and above)";
    output;
  end ;
  if 18 =< age < 25 then do;
    group = "    Under 25";
    output;
  end;
  if 18 =< age < 50 then do;
    group = "    Under 50";
    output;
  end;
  if 18 =<age < 75 then do;
    group = "    Under 75";
    output;
  end;
  if age >100 then do;
    group = "    Above 100";
    output;
  end;
run;

ods pdf style = sasweb file = "proc freq.pdf";
proc freq data = demol;
  tables group*trt/ nocol norow nopercnt;
run;
ods pdf close;
```



MULTILABEL FORMATS

```
proc format;  
value agefmt (multilabel notsorted)  
    0    - 17    = "Children (under 18) "  
    18   - high = "Adult (18 and above) "  
    18   - 24    = "    Under 25 "  
    18   - 49    = "    Under 50 "  
    18   - 74    = "    Under 75 "  
    101  - high = "    Above 100";  
run;
```

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PROC MEANS/SUMMARY WITH MLF OPTION



```
proc means data = demo completetypes noprint data = interim; (1)
    class age/ mlf preloadfmt; (2)
    class trt;
    var patient;
    output out = interim(drop = _type_ _freq_) n = N;
    types age*trt;
    format age agefmt.;
run;
```

INTERIM DATASET

	age	trt	N
1	Above 100	Placebo	0
2	Above 100	Treatment	0
3	Under 25	Placebo	0
4	Under 25	Treatment	0
5	Under 50	Placebo	3
6	Under 50	Treatment	3
7	Under 75	Placebo	4
8	Under 75	Treatment	6
9	Adult (18 and above)	Placebo	5
10	Adult (18 and above)	Treatment	7
11	Children (under 18)	Placebo	2
12	Children (under 18)	Treatment	1

```
proc transpose data = interim
out=sum_tr(drop=_NAME_);
  id trt;
  by age;
  var N;
run;
```



```
proc sql;
  create table result as
  select *
  from sum_tr
  order by input(age,ageinf.);
quit;
```



```
proc format ;
invalue ageinf
"Children (under 18)" = 1
"Adult (18 and above)" = 2
"    Under 25" = 3
"    Under 50" = 4
"    Under 75" = 5
"    Above 100" = 6;
run;
```

OUTCOME

	age	Placebo	Treatment
1	Children (under 18)	2	1
2	Adult (18 and above)	5	7
3	Under 25	0	0
4	Under 50	3	3
5	Under 75	4	6
6	Above 100	0	0

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PROC TABULATE WITH MLF OPTION

```
ods pdf style=sasweb file = "proc tabulate.pdf";  
proc tabulate data = demo noseps;  
  class age/ mlf preloadfmt order = data;  
  classlev age/ style = {asis = on};  
  class trt;  
  table (age=" "), (trt=" ") * n=" " / printmiss misstext="0" box = "Age Group";  
  format age agefmt.;  
run;  
ods pdf close;
```

Age Group	Placebo	Treatment
Children (under 18)	2	1
Adult (18 and above)	5	7
Under 25	0	0
Under 50	3	3
Under 75	4	6
Above 100	0	0

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PROC REPORT WITH MLF OPTION

```
ods pdf style = sasweb file = "proc report.pdf";  
proc report data = phuse.demo nowd completerows;  
  column sex age patient height weight;  
  define sex/ group;  
  define age/ group mlf preloadfmt format = agefmt. order = data  
style(column) = {asis = on} "Age Group";  
  define patient/ n "Number of patients";  
  define height/ mean format=6.2 "Mean Height (cm)";  
  define weight/ mean format=6.2 "Mean Weight (kg)";  
  rbreak after/ summarize;  
run;  
ods pdf close;
```

OUTCOME

sex	Age Group	Number of patients	Mean Height (cm)	Mean Weight (kg)
Female	Children (under 18)	2	167.00	57.15
	Adult (18 and above)	5	165.20	58.48
	Under 25	0	.	.
	Under 50	3	163.00	62.37
	Under 75	4	163.00	60.00
	Above 100	0	.	.
Male	Children (under 18)	1	154.00	66.30
	Adult (18 and above)	7	162.29	67.51
	Under 25	0	.	.
	Under 50	3	166.67	66.37
	Under 75	6	164.33	67.48
	Above 100	0	.	.
		15	163.33	63.04

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CNTLIN DATASTEP

```
data format;
  fmtname = "fmt";
  length label $20. hlo $3.;
  start = 0;    end = 17; hlo = "SM";  label = "Children (under 18)";
  output;
  start = 18;   end = .;  hlo = "SMH"; label = "Adult (18 and above)";
  output;
  start = 18;   end = 24; hlo = "SM";  label = "    Under 25";
  output;
  start = 18;   end = 49; hlo = "SM";  label = "    Under 50";
  output;
  start = 18;   end = 74; hlo = "SM";  label = "    Under 75";
  output;
  start = 101;  end = .;  hlo = "SMH"; label = "    Above 100";
  output;
run;

proc format lib = work.formats cntlin=format;
run;
```

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THANK YOU!