Exhibiting statistical results of several variables on one graphical page is certainly a goal of many programmers and end users. Often, the end users are presented with stacks of graphs on which each page expresses the results of only one variable collected during a study. SAS/Graph has the capability of displaying several variables on one graphical page, thereby offering the statisticians and end users many advantages. Some major advantages are easier comparisons, enhanced decision making capability, improved organization of data, increased efficiency of time management, and lower error rates.

Specifically, my presentation deals with the display of medical research data in a compact form. One graph displays actual values for 11 variables which the investigator chose to view at one time. The remaining graph displays mean values for only five physical symptom variables, but each chart plots high- and low-value lines. Reference lines for normal values are also included for two of the physical symptom variables. Two pages containing this very large amount of information is more desirable than having 21 separate pages showing the equivalent results. SAS/Graph makes this concise display possible.

To accomplish the task of creating stacked graphs, special uses of the GOUT, AXIS, DISPLAY, and GREPLAY statements are necessary. The program code begins with a GOPTIONS selection of NODISPLAY. NODISPLAY is used so that each graph is not printed before the final page of stacked graphs. DISPLAY is turned on only when the processing has advanced through all graphs, footnotes, and titles. Only at this time is the final product ready to be displayed. All graphs, footnotes, and titles are saved into a temporary GOUT dataset and then replayed through PROC GREPLAY onto a full-view template screen. The positioning is dependent upon what has been coded into the AXIS statements for each graph. The two axis statements specify the length and origin locations for each axis.

Basically, this is what must be considered when creating stacked graphs. Care should be taken with the placement of the origins so that overlapping or underlapping does not occur. To align graphs correctly, several attempts may be required.

Actual code that created both charts has been included for your future use and reference. The code clearly shows each step taken to produce the stacked graph presentation.
AXIS1 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "STPD") MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT B2*DATPOST/AXIS=AXIS1 XAXIS=AXIS15 NAME="STPD" FRAME ;

AXIS15 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "STPD") MINOR=NONE; AXIS15 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT E2*DATPOST/AXIS=AXIS15 XAXIS=AXIS1 NAME="STPD" FRAME ;

AXIS17 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "PLT") MINOR=NONE; AXIS17 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT F3*DATPOST/AXIS=AXIS17 XAXIS=AXIS1 NAME="PLT" FRAME ;

AXIS19 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "RTIC") MINOR=NONE; AXIS19 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT F4*DATPOST/AXIS=AXIS19 XAXIS=AXIS1 NAME="RTIC" FRAME ;

AXIS11 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "HEM") MINOR=NONE ORDER=6.00 to 18.00 by 12.00; AXIS12 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT F5*DATPOST/AXIS=AXIS11 XAXIS=AXIS1 NAME="HEM" FRAME ;

AXIS13 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "HCT") MINOR=NONE; AXIS13 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT F7*DATPOST/AXIS=AXIS13 XAXIS=AXIS1 NAME="HCT" FRAME ;

AXIS15 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "HEM") MINOR=NONE; AXIS15 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT F8*DATPOST/AXIS=AXIS15 XAXIS=AXIS1 NAME="HEM" FRAME ;

AXIS17 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "TEMP") MINOR=NONE ORDER=35.00 to 41.00 by 6.00; AXIS18 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT I9*DATPOST/AXIS=AXIS17 XAXIS=AXIS1 NAME="TEMP" FRAME VREF=37.5 CRE=BLACK LCRE=2;

AXIS19 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "PP") MINOR=NONE; AXIS19 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT PP*DATPOST/AXIS=AXIS19 XAXIS=AXIS1 NAME="PP" FRAME ;

AXIS21 LENGTH=LPC ORIGIN=(150,000) MAJOR=(N=2) LABEL=(A=90 R=0 "BPS") MINOR=NONE ORDER=60.00 to 100.00 by 10.00; AXIS22 LENGTH=LPC ORIGIN=(150,000) MINOR=(N=2) LABEL=NONE VALUE=NONE ORDER=2 to 21 by 3 ; PLOT I1*DATPOST/AXIS=AXIS21 XAXIS=AXIS2 NAME="BPS" FRAME ;

FOOTNOTE J=L 'STUDY NUMBER = 001'; PROC GPROJ OUTF=SSSS NAME="NOTE" ; RUN; OPTIONS DISPLAY; PROC GPLAY OUT=SSSS NSYS; TC TEMP; TDEF ALL / LXL=0 UXL=100 LXR=100 UXR=100 LLY=0 ULY=100 URL=100 URL=100.

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Madelyn Remsburg
Applications Development
Computer Science Office
USAMRMD
Fort Detrick, MD 21701-5011
(301) 663-7514