

CONSORT Diagram: Doing it with SAS

Anusha Mallavarapu, Dean Shults - Cytel

The CONSORT statement is used worldwide to improve the reporting of parallel group, randomized trials. It suggests creating a CONSORT diagram that represents the participant flow in the trial. The CONSORT diagram for two arm study can easily be generated using MS Word by manually entering the counts at each phase of the study. However, manual entry may be prone to error, especially when there are more than two arms in a trial. The RTF and macro functionalities of SAS® can be used to develop the CONSORT diagram. SAS reads the RTF template of CONSORT diagram specific to the trial, fills in the counts at each phase of the trial and then re-writes the final CONSORT diagram to RTF displaying the counts. This poster will provide an illustration in how RTF and SAS macros can automatically generate a CONSORT flow diagram of choice.



Properties of RTF:

RTF has unformatted text, control words, control symbols and groups which are read as text by SAS

Doing with non-RTF techniques:

- VBS: Requires scripting knowledge
- SAS/GRAPH: Complex coding
- MS Word: Prone to errors

Step 1

- Create an RTF template of CONSORT diagram as per study design
- Fill the RTF with unique text codes where counts are to be displayed

Step 2

- Calculate counts by any SAS procedure and hold them in macro variables

Step 3

- Read the RTF template into SAS using INFILE and INPUT statements
- _INFILE_ is an automatic variable that holds RTF code read by SAS

Step 4

- Update _INFILE_ in a DATA step using character replacing functions TRANWRD/TRANSTRN to replace the unique text codes with the counts held in macro variables
- Use FILE and PUT statements to output final CONSORT diagram in RTF

Partial RTF code as read by SAS

```
\rtlch\fcs1\af1\afs16\ltrch\fcs0\f1\fs16\lang4105\langfe1033\langnp4105\insrsid10040895Excluded(n=x2){\rtlch\fcs1\af1\afs16\ltrch\fcs0\f1\fs16\lang4105\langfe1033\langnp4105\insrsid10040895\charrsid1184092}
```

Example CONSORT Diagram Displaying Counts

