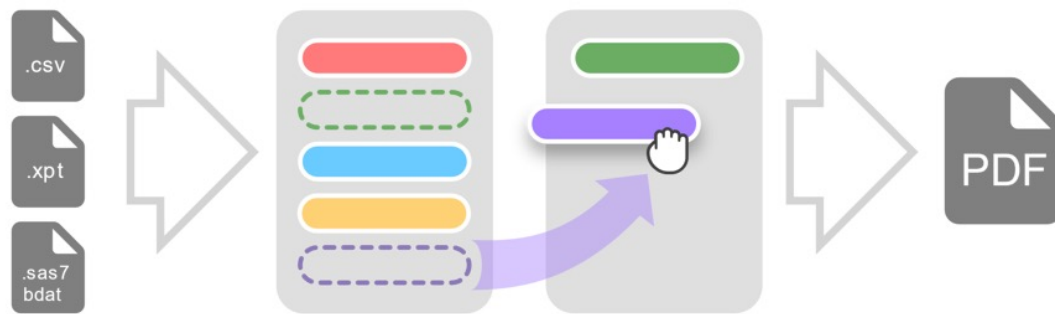


Mesa: A Shiny-based Web Application for Drag-and-Drop Creation of Metadata-Driven Statistical Summary Tables

SD02

Conceptual Diagram



Mesa generates well-formatted output dynamically in response to **user actions**.

User Actions

- **Select** input dataset, variables for summary, grouping and filtering criteria.
- **Update** variable labels, units, code lists and sort order.
- **Create** and update titles, footnotes.
- **View** table as HTML and/or PDF.
- Save **PDF** to custom location.
- Save user **selections** for re-use.
- Save summary results as **CSV** to custom location.

Mesa gives the user an intuitive interface for controlling inputs.

SD02

Mesa Input Data Variables Shell Preview PDF

data
C:/Users/U060612/phuse/adsl.sas7bdat

configuration
save configuration

Grouping Style
☐ nested ☒ sequential

Safety Flag
☒ Y ☐ N

Choose dataset or configuration.
Classify, re-order variables by drag and drop.
Point and click for sub-setting records.

Data Item Roles

Available	Summarize	Group By	Filter By
agegr1	age	trt01a	saffl
anyae1	agegr	trt01aa	
serae1	diagdur		
sex	asex		

```
1 anyae1: [ Any TEAEs, [ 'Y', 'N' ] ]
2 serae1: [ Serious TEAEs, [ 'Y', 'N' ] ]
3 agegr:  [ Age Categories^a, [ '<=18 yrs', '19 - <65 yrs', '>=65 yrs', 'Missing: ' ] ]
4 age:    [ Age, year ]
5 diagdur: [ Duration of Disease, year ]
6 weight: [ Weight, lb ]
7 sex:    [ Gender, [ Female: F, Male: M ] ]
8 asex:   [ Gender, [ Female, Male ] ]
9 studyid: [ Study Identifier ]
10 usubjid: [ Subject Identifier ]
11 saffl:   [ Safety Flag, [ 'Y', 'N' ] ]
12 trt01a:  [ Treatment, [ 'Placebo', 'TRT 10 mg', 'TRT 20 mg' ] ]
13 trt01aa: [ Treatment Group, [ 'Placebo', 'TRT 10 mg', 'TRT 20 mg', 'TRT Total' ] ]
```

Edit variable labels, units,
code lists and sort order.

Mesa Input Data Variables Shell Preview PDF

Save

Provide output headers,
footers, titles and footnotes.

Output Identifier
T-03-01

Title
Table Demographic - Safety Population

Footnotes
a clinicaltrials.gov age categories.

Left Header 1
Company Name

Left Header 2
AA01

Mesa supports metadata for anticipated variables.

SD02

Mesa

Input

Data

Variables

Shell

Preview

PDF

Save

C:/Users/U060612/phuse/adsl.yaml

1

2

3

4

5

6

7

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10

11

12

13

14

15

16

17

anyae1:

serae1:

agegr:

age:

diagdur:

weight:

sex:

asex:

studyid:

usubjid:

saffl:

trt01a:

trt01aa:

agegr1:

BMI:

race:

exdurd:

[Any TEAEs, ['Y', 'N']]

[Serious TEAEs, ['N', 'Y']]

[Age Categories^a, ['<=18 yrs', '19 - <65 yrs', '>=65 yrs', 'Missing': '']]

[Age, year]

[Duration of Disease, year]

[Weight, lb]

[Gender, [F, M]]

[Gender, [Female, Male]]

[Study Identifier]

[Subject Identifier]

[Safety Flag, ['Y', 'N']]

[Treatment, ['Placebo', 'TRT 10 mg', 'TRT 20 mg']]

[Treatment Group, ['Placebo', 'TRT Total']]

[Age Categories 1, ['<=40 yrs', '41 - <65 yrs', '>=65 yrs', 'Missing': '']]

[Body Mass Index, kg/m^2]

[Race, ['Asian', 'Black', 'White', 'Other']]

[Exposure Duration, days]

Add new variables not yet in the input dataset. Pre-specify the display order and code list order as part of the output design.

Company Name
AA01

Confidential
Draft

Table 4.1 Demographic - Safety Population

	Placebo (N = 5)	TRT 10 mg (N = 5)	TRT 20 mg (N = 4)	TRT Total (N = 9)	All (N = 14)
Age (year)					
n	4	4	4	8	12
Mean (SD)	42 (27.1)	42.5 (15.4)	44.2 (21.2)	43.4 (17.2)	42.9 (19.7)
Median	42	36.5	44.5	42	42
Min, Max	18, 66	32, 65	18, 70	18, 70	18, 70
Age Categories^a					
<=18 yrs	1 (20%)	0	1 (25%)	1 (11.1%)	2 (14.3%)
19 - <65 yrs	1 (20%)	4 (80%)	2 (50%)	6 (66.7%)	7 (50%)
>=65 yrs	2 (40%)	0	1 (25%)	1 (11.1%)	3 (21.4%)
Missing	1 (20%)	1 (20%)	0	1 (11.1%)	2 (14.3%)
Age Categories^b					
<=40 yrs	-	-	-	-	-
41 - <65 yrs	-	-	-	-	-
>=65 yrs	-	-	-	-	-
Missing	-	-	-	-	-
Exposure Duration (days)					
n	-	-	-	-	-
Mean (SD)	-	-	-	-	-
Median	-	-	-	-	-
Min, Max	-	-	-	-	-

a Clinicaltrials.gov age category.

b Study specific age category.

Anticipated variables are displayed using dashes.

C:/Users/U060612/phuse/T-04-01.conf

2022-04-15 at 20:23

Mesa makes HTML and PDF versions of each table.

SD02

Mesa	Input	Data	Variables	Shell	Preview	PDF
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	Placebo (N = 5)	TRT 10 mg (N = 5)	TRT 20 mg (N = 4)	TRT Total (N = 9)	All (N = 14)
Age (year)					
n	4	4	4	8	12
Mean (SD)	42 (27.1)	42.5 (15.4)	44.2 (21.2)	43.4 (17.2)	42.9 (19.7)
Median	42	36.5	44.5	42	42
Min, Max	18, 66	32, 65	18, 70	18, 70	18, 70
Age Categories^a					
<=18 yrs	1 (20%)	0	1 (25%)	1 (11.1%)	2 (14.3%)
19 - <65 yrs	1 (20%)	4 (80%)	2 (50%)	6 (66.7%)	7 (50%)
>=65 yrs	2 (40%)	0	1 (25%)	1 (11.1%)	3 (21.4%)
Missing	1 (20%)	1 (20%)	0	1 (11.1%)	2 (14.3%)

HTML can be saved as CSV to custom location.

Company Name AA01	Confidential Draft
----------------------	-----------------------

	Placebo (N = 5)	TRT 10 mg (N = 5)	TRT 20 mg (N = 4)	TRT Total (N = 9)	All (N = 14)
Age (year)					
n	4	4	4	8	12
Mean (SD)	42 (27.1)	42.5 (15.4)	44.2 (21.2)	43.4 (17.2)	42.9 (19.7)
Median	42	36.5	44.5	42	42
Min, Max	18, 66	32, 65	18, 70	18, 70	18, 70
Age Categories^a					
<=18 yrs	1 (20%)	0	1 (25%)	1 (11.1%)	2 (14.3%)
19 - <65 yrs	1 (20%)	4 (80%)	2 (50%)	6 (66.7%)	7 (50%)
>=65 yrs	2 (40%)	0	1 (25%)	1 (11.1%)	3 (21.4%)
Missing	1 (20%)	1 (20%)	0	1 (11.1%)	2 (14.3%)
Duration of Disease (year)					
n	5	5	4	9	14
Mean (SD)	11.2 (6.18)	5.12 (5.32)	6.1 (9.33)	5.56 (6.86)	7.56 (6.96)
Median	10	3.8	1.9	3	5.3
Min, Max	5, 21	1, 14	0.6, 20	0.6, 20	0.6, 21
Gender					
Female	2 (40%)	4 (80%)	1 (25%)	5 (55.6%)	7 (50%)
Male	3 (60%)	1 (20%)	3 (75%)	4 (44.4%)	7 (50%)

a clinicaltrials.gov age categories.

PDF can be saved to custom location.

2021-08-28 at 12:16

Setup Install package from CRAN: <https://cran.r-project.org/package=tablet> >= 0.5.0; load using 'library(tablet)'; call function 'mesa()' to launch internet browser.
 LaTeX needed for PDF creation. **Authors:** Tim Bergsma (tim.bergsma@qpharmetra.com), Qiaobing Crystal Bergsma (qiaobing.bergsma@uccb.com)

