



A review of the figuRes2 package

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Historical Notes



- The **figures package** was developed to support trial reporting for a large Phase III CV program consisting of two sister studies at GlaxoSmithKline ~2012-2013
- It was further developed to support another CV program 2014-2015 – renamed figuRes2
- Development stopped in June 2015
- No proprietary data is included in the figuRes2 package. Dummy data sets are included to help demonstrate the package capabilities.
- Usage in clinical trial reporting at GSK from 2014-2015 effort:
 - A subset of this team had supported figure production in 2012-2013 on two large Phase III CV trials.
 - Team GSK: 3 core + 2 @ 25% of their time
 - A series of training was given in August last year for PHI graphic team (~20 hours)
 - 2 Phase II studies in kidney disease
 - Deliverables: 400+ graphics combined; 50 unique styles
 - Very compressed timeline
 - Data received to dry-run figures: 2 weeks
- Revisited in 2022
 - Package code available here: <https://github.com/gcicc/figures2>
 - CRAN submission

Planning the figuRes2 package circa 2014



- Desired features:
 - Ability to manage figure meta data in one location
 - Publication quality graphics
 - Ability to have consistency among Plot Styles with ability to apply changes across Plot styles
 - E.g., common boxplot standard with numeric median printed to left.
 - Ability to make global changes easily
 - I.e., ggplot2 theme manipulation, change color palette globally.
 - Ability to deviate from Plot Styles
- Design philosophy: A figure is a collection of graphs/tables assembled on a page and optionally annotated with metadata.
 - Exploit the grid & gridExtra packages for page layout design
- For the user:
 - Training manual provides a battery of advanced examples
 - Smart defaults and package vignettes get users up and running quickly
 - Real estate for graphic dynamically adjusts for number of title/footnote lines
 - Advances in functions solve the problem of fine margin control



What are the main functions of figuRes2 package?

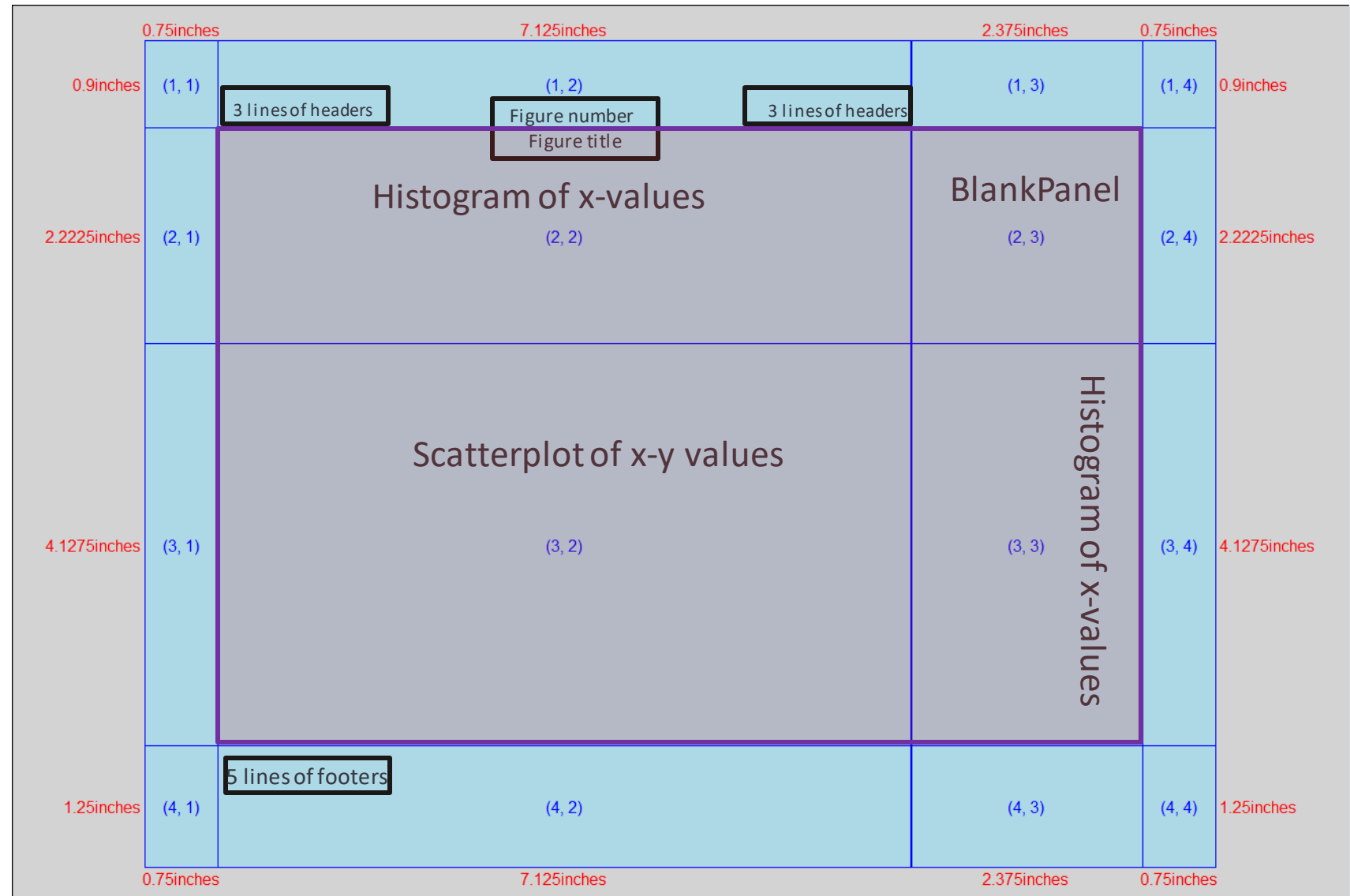


- **Main functions**
 - **build.page**: Takes page dimensions, figure layout dimensions, and an ordered list of grobs/ggplot objects, and orients them on a page
 - Leverages grid and gridExtra packages
 - grid.show.layout
 - grid.arrange
 - **annotate.page**: following a call to build.page, this function 'stamps' meta data onto the arranged page.
 - Includes left and right headers
 - Includes footer
 - Includes title
 - Both functions share the following default arguments motivated by study reporting efforts.
 - page.height = 8.5,
 - page.width = 11,
 - right.margin = 0.75,
 - left.margin = 0.75,
 - top.margin = 1.4 - 0.5,
 - bottom.margin = 1.75 - 0.5
 - The output is passed to a generic device, the computer screen, .pdf file, .png file, etc.
 - Computer screen can give a good approximation, but .pdf is the target output in our reporting applications

build.page is a convenience wrapper for grid.layout and show.grid.layout



- build.page: Takes page dimensions, figure layout dimensions and an ordered list of grobs/ggplot objects orients them on a page
- Rough placement of headers/footers
- Annotate.page adds
 - Headers and footers
 - Optionally adds a title
 - If titles are created as part of the ggplot object, then no adjustment to the plot region is needed
 - If titles are stamped by annotate.page, it is necessary to pass
 - "", "\n", "\n\n", etc. to the ggplot title

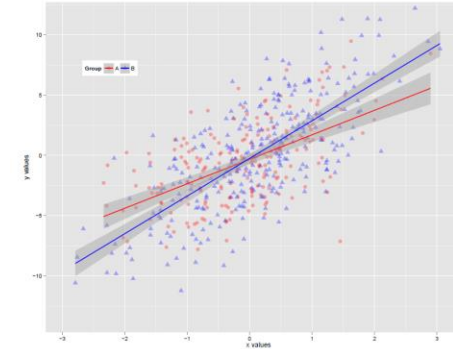


Component graphics – Goal scatterplot with marginal densities

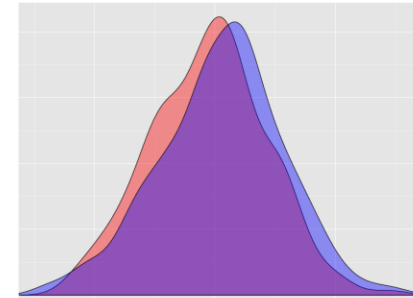


```
main.plot <- ggplot(data=working.df, aes(x=x,y=y, color=group, shape=group)) +  
  geom_point(size=3, alpha=.3) +  
  geom_smooth(method = "lm", size=.75) +  
  labs(x="x values", y="y values", color="Group", shape="Group") +  
  scale_shape_manual(values=c(16, 17)) +  
  scale_color_manual(values=c("red", "blue"))+  
  scale_x_continuous(limits=c(xmin+.5,xmax+.5), breaks=seq(-4,4,1), expand=c(0,0))+  
  scale_y_continuous(limits=c(ymin+.5,ymax+.5), expand=c(0,0))+  
  theme(legend.position=c(.15, .8))
```

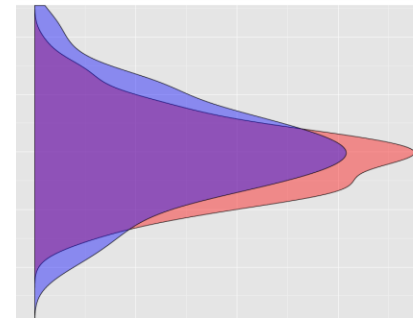
```
print(main.plot)
```



```
density.plot.x <- ggplot(data=working.df, aes(x=x, fill=group, shape=group)) +  
  geom_density(alpha=.4) +  
  scale_fill_manual(values=c("red", "blue"))+  
  scale_x_continuous(limits=c(xmin+.5,xmax+.5), expand=c(0,0))+  
  theme(axis.text=element_text(color="white"),  
        axis.ticks=element_line(color="white")) +  
  labs(x=NULL, y="", title="\n") +  
  guides(fill=FALSE)  
print(density.plot.x)
```



```
density.plot.y <- ggplot(data=working.df, aes(x=y, fill=group, shape=group)) +  
  geom_density(alpha=.4) +  
  scale_fill_manual(values=c("red", "blue"))+  
  theme(axis.text=element_text(color="white"),  
        axis.ticks=element_line(color="white")) +  
  scale_x_continuous(limits=c(ymin+.5,ymax+.5), expand=c(0,0))+  
  labs(x=NULL, y="") +  
  guides(fill=FALSE) +  
  coord_flip()  
print(density.plot.y)
```



build.page is a convenience wrapper for grid.layout and show.grid.layout

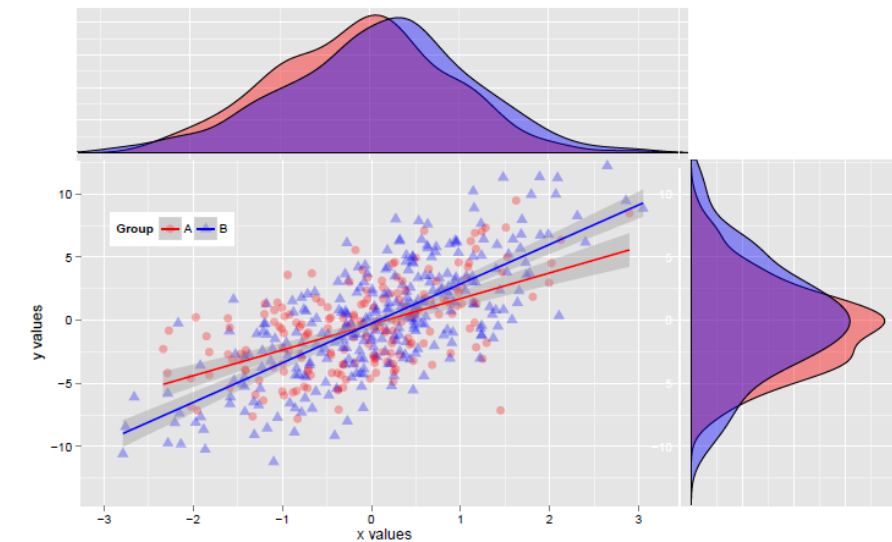
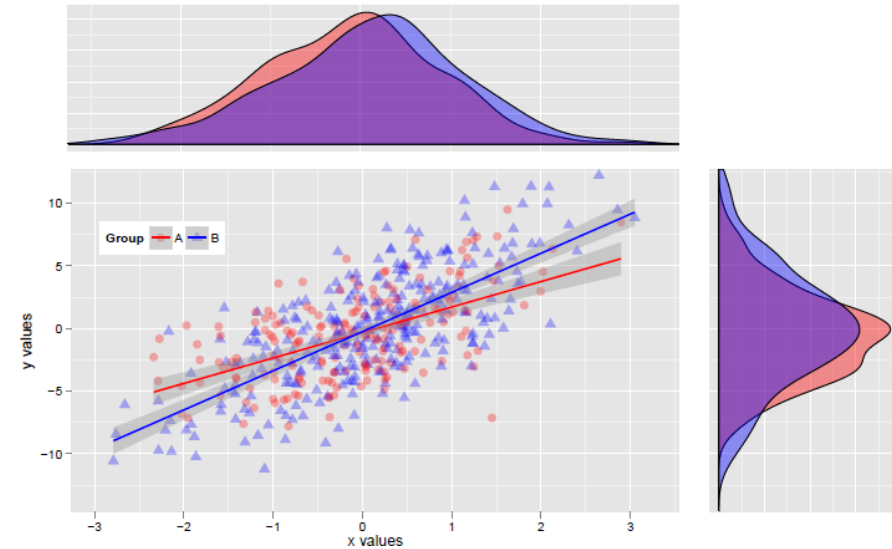


- interior.h, interior.w divides the graphic region
- ncol, nrow helps user ensure dimensions are as intended
- Interior is a list of ggplot objects

```
build.page(interior.h = c(.35, .65),  
           interior.w = c(.75, .25),  
           ncol=2,  
           nrow=2,  
           interior =list(  
             density.plot.x, blankPanel,  
             main.plot, density.plot.y))
```

- ggplot theme manipulation allows us to control padding
 - Such fine tuning is accomplished at the driver level

```
build.page(interior.h = c(.35, .65),  
           interior.w = c(.75, .25),  
           ncol=2,  
           nrow=2,  
           interior =list(  
             density.plot.x+  
               theme(plot.margin= unit(c(0, -.1, -.1,0), unit="in")),  
             blankPanel,  
             main.plot+theme(plot.margin=unit(c(-.1, -.1, 0,0), unit="in")),  
             density.plot.y + theme(plot.margin=unit(c(-.1,0, 0, -.3),  
                                                       unit="in"))))
```



Sample Figure: 3 graphics arranged on a page and 'stamped' with meta-data

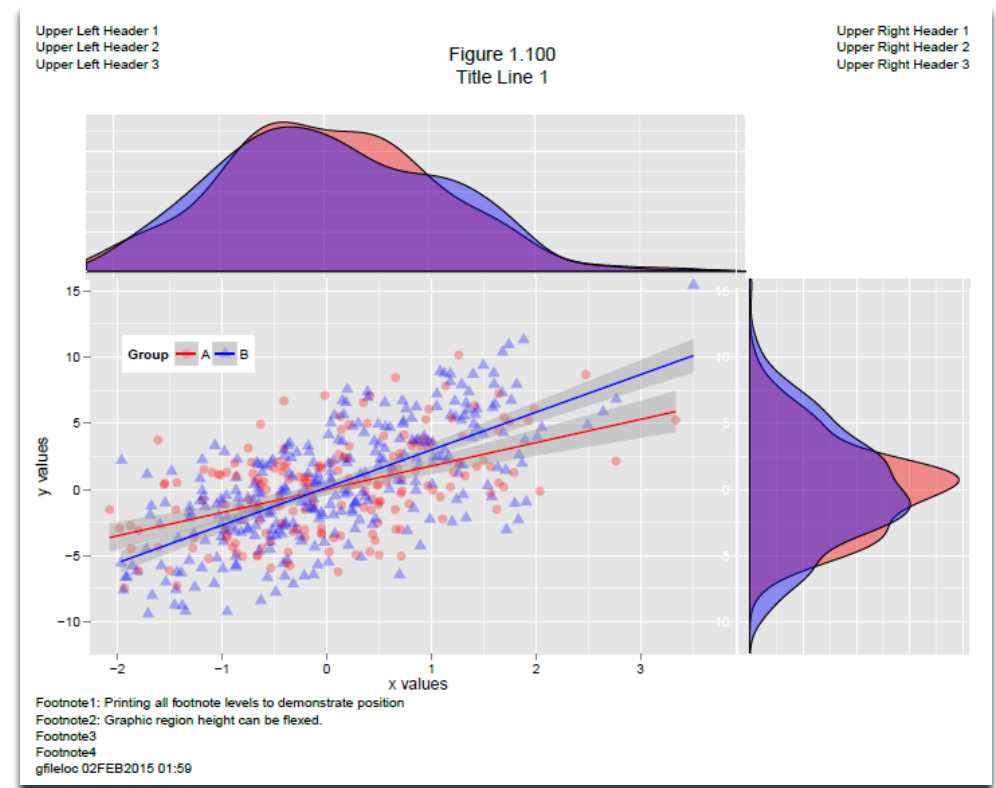
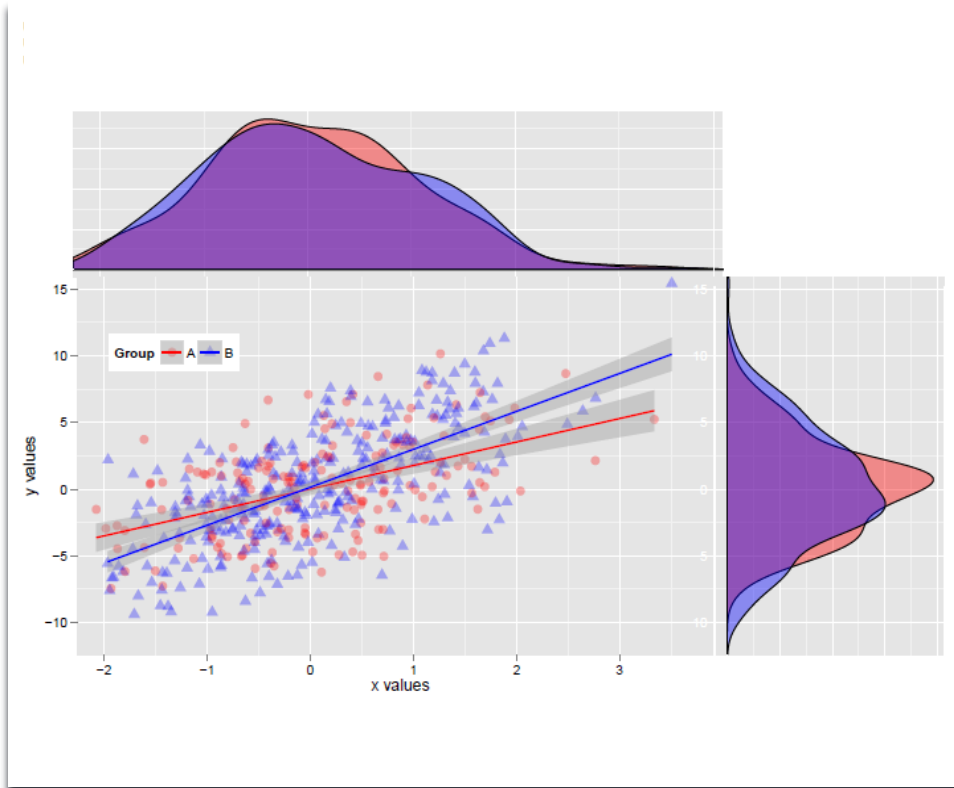


- **build.page:** Takes page dimensions, figure layout dimensions and an ordered list of grobs/ggplot objects orients them on a page

```
build.page(interior.h = c(.35, .65),
           interior.w = c(.75, .25),
           ncol=2,
           nrow=2,
           interior =list(
             density.plot.x+
               theme(plot.margin= unit(c(0, -.1, -.1,0), unit="in")),
             blankPanel,
             main.plot+theme(plot.margin=unit(c(-.1, -.1, 0,0), unit="in")),
             density.plot.y + theme(plot.margin=unit(c(-.1,0, 0, -.3),
                                                       unit="in"))))
```

- **annotate.page:** Stamps on headers, footers, titles, date stamp

```
annotate.page(override = "", title=list("Title Line 1", "", "", "", ""))
```



What exactly does the figuRes2 package offer?



- **default.settings** – a function that preps your global environment for a production run
 - Argument inputs:
 - my.path – your default file path
 - main.theme = "theme_bw"
 - page.width = 11,
 - page.height = 8.5,
 - right.margin = .75,
 - left.margin = .75,
 - top.margin = 1.4-.5,
 - bottom.margin = 1.75-.5
 - Output: These values are assigned to the global environment. It also assigns the global environment character values associated with subdirectories of your default path
 - dd – data directory holding validated data sets
 - cd – code directory hold .r driver files – one driver is associated with each planned figure
 - od – output directory holding output files (pdfs) – one pdf is associated with each planned figure
 - logd – log directory holding a log file. base::sink is used to capture items that R outputs to the screen and write these to a log file. One log file is associated with each planned figure
- Plot Standards – these are wrappers to create various ggplot graphics.
 - **Bar.plot, box.plot, cdf.plot, forest.plot, km.plot,**
 - **nsubj.plot** - A function to create tables to accompany KMs and lineplots
 - **table.plot** - A function for plotting columns of text in a figure offering compatibility with forest.plot

What exactly does the figure package offer?



- Ggplot themes – these need to be revisited to update to 2022. These would be tailored by sponsor and team. These make some simple changes the default ggplot themes. (E.g., `legend.position = "bottom"`)
 - **theme_grey2_nomargins, theme_grey2_default_margins**
 - **theme_bw2_nomargins, theme_bw2_default_margins**
 - **theme_table_nomargins**
- Helper functions for graphics – some of these solutions may be covered by improvements/extensions to ggplot2
 - **check.ggplot.outliers** - Reports via messages when ggplot windows truncate data; used with log files
 - **sync.ylab.widths** - Aligns the widths of ggplot objects to ensure common plot regions. The maximum length required for y-axis labels among the list is determined and applied to the other plots. This assists in syncing the widths of ggplot objects for the purpose of align figures on a page.
 - **get.top.xaxis** - takes two ggplot objects, steals the bottom x-axis from 2nd object and returns a gtable object with that bottom x-axis per object 1 and top x-axis per object 2
- Helper functions for working with an outputplan
 - **refresh.outputplan** - Reloads outputplan_study.csv file and applies canonical formatting changes.
 - **run.specific** - This function sources a .r driver file and sends product to a newly opened 8.5in x 11in screen or pdf file with 8.5in x 11in dimensions. Optionally creates a log file.
 - **All.in.one** - Produces a single pdf file with based on rows in the outputplan whose UseSubset column is equals 'Y'. A progress bar is displayed.
- Utility Functions
 - **fmt** - A function to control number of digits used in graphics.
 - **FacetLabelAdjuster** - This function takes a 'facet wrapped' ggplot and adds axis labels when a rxc grid is incomplete
 - Perhaps an obsolete solution based on: <http://stackoverflow.com/questions/13297155/add-floating-axis-labels-in-facet-wrap-plot>
 - It does appear that ggplot2 has been updated!
 - The following would appear at start and close of each .r driver file:
 - **start.session.log** - A function to start logging the session history for a graphic driver run
 - **stop.session.log** - A function to stop logging the session history for a graphic driver run and save the session history file
 - This idea has been developed further by GSK; see the **timber package**

- **figuRes2 manual** – a larger file containing various components listed below
 - **ggplot2-training.rmd** - planned addition in development for Fall 2022 training at Takeda
 - This focuses exclusively ggplot2 features – basics and advanced tips and may combine some of aspects of forest.rmd and km.rmd
 - **Basics.Rmd**
 - Introduces the build.page and annotate page functions
 - **Large-scale.Rmd**
 - **This vignette needs to be revisited.**
 - Demonstrates how a .csv file imported as a data.frame can be used for figure production
 - Data sets included in the package can be used to mimic a figure production run:
 - Data sets required are included
 - Data sets are included and code is provided to
 - Write dataset content into .r driver files used for demo – there are a handful of examples
 - Write dataset content into .r skeleton file. This skeleton .r file is then used to create large numbers of driver files
 - E.g., we want boxplots created for each country; this requires a similarly scripted driver file for each country. We can make short work of this...
 - Extract an outputplan (which would normally be composed in excel) as a data.frame
 - This is then used in conjunction with run.specific and all.in.one as previously described
 - **forest.rmd**
 - This steps through the creation of a few forest.plot applications – here we juxtapose the forest.plot based graphics with the table.plot based components.
 - **Km.rmd**
 - Similarly, this steps through the creation of a few km.plot application – here we stack km.plot and with a numbers at risk table based on nsubj.plot output.
 - This may be obsolete for Kaplan-Meier curves given development of Survminer and other ggplot extensions

- Envisage a .csv file with
 - Columns for meta-data
 - Upper left headers: ulh1, ulh2, ulh3
 - Upper right headers: urh1, urh2, urh3
 - Footnotes: fnote1, ..., fnote4
 - Last line is for file path and timestamp
 - Figure Number
 - Figure Title
 - References to companion tables
 - Columns to link
 - Name of .r driver file containing code to create graphics/tables for figure
 - Name of .pdf output file
 - Columns to aide in figure assembly
 - Number of rows to allocate to title and footnotes: nTitleLines, nFootLines
 - The area of the page allocated to graphics/tables adjusts based on number of lines needed for title and footnote
 - Columns to facilitate team's work
 - Plotstyle
 - Driver author, QC person, HarpTitle (link to reporting system)
- `figuRes2::run.specific`
 - Takes driver name and optionally outputs it to the screen or any number of file formats
 - pdfs are produced for each graphic. (Same function can produce .jpeg, etc.)
- `figuRes2::all.in.one`
 - Runs all driver files from outputplan (once subsetting to rows highlighting files of interest)
 - A single pdf is produced with all figures.

Documentation features of workflow



- Workflow
 - Datasets generated by HARP Tables or SAS code → exported as .csv files for GSK effort
 - In 2023 importing SAS data files are routine and allows labels can come right over
 - Driver file loads data and returns a figure exported as a .pdf file
 - start.session.log and stop.session.log captures all screen output / warning messages
 - .pdf figures delivered to HARP (publishable)
 - IDSL compliant by design
 - Reproducible code and documented run history
 - Each figure is QC

Outputplan columns facilitating production run



- Each row is associated with a single figure
- Each figure has unique values for **FigureNumber**, **HarpTitle**, **FigureTitle**, **outputfile**, and **rcode**
- **HarpTitle** provides ascii link to title used by HARP publishing
- **FigureTitle** may differ to impart line breaks (via '\n')
- Each **.pdf output file**, corresponding **.r driver file**, and **.rhis log file** (generated by driver files) all share same stemname.

Study	Section	Number	FigureNumber	HarpTitle	FigureTitle	outputfile	rcode
StudyXYZ	10	1	10.0001	Boxplot of Age	Boxplot of Age - Title fits on one line - only path, table, time...	boxplot_age.PDF	boxplot_age.r
StudyXYZ	10	2	10.0002	Boxplot of Height	Boxplot of Height Title requires two lines	boxplot_height.PDF	boxplot_height.r
StudyXYZ	10	3	10.0003	Boxplot of Weight	Boxplot of Weight Title requires a second and a third line	boxplot_weight.PDF	boxplot_weight.r
StudyXYZ	10	4	10.0004	Boxplot of Systolic Blood Pressure	Boxplot of Systolic Blood Pressure Title requires a second an...	boxplot_sysbp.PDF	boxplot_sysbp.r
StudyXYZ	10	5	10.0005	Boxplot of Diastolic Blood Pressure	Boxplot of Diastolic Blood Pressure Superscript needed in title	boxplot_diabp.PDF	boxplot_diabp.r
StudyXYZ	10	6	10.0006	Boxplot of Body Mass Index	Boxplot of Body Mass Index	boxplot_bmi.PDF	boxplot_bmi.r
StudyXYZ	10	7	10.0007	Boxplot of HDL Cholesterol	Boxplot of HDL Cholesterol	boxplot_hdl.PDF	boxplot_hdl.r
StudyXYZ	10	8	10.0008	Density Plot E0 (Normal Distribution) for Primary and Sensiti...	Density Plot E0 [subscript needed] Normal Distribution for ...	priordens.PDF	priordens.r
StudyXYZ	10	9	10.0009	Cumulative Distribution Function Plot of Weight	Cumulative Distribution Function Plot of Weight	cdf_weight.PDF	cdf_weight.r
StudyXYZ	10	10	10.001	Plot of Individual Values of Weight with 95% Confidence Int...	Plot of Individual Values of Weight with 95% Confidence Int...	jitter_weight.PDF	jitter_weight.r
StudyXYZ	10	11	10.0011	Plot of Individual Values of Weight with 95% Confidence Int...	Plot of Individual Values of Weight with 95% Confidence Int...	jitter_weight_faceted.PDF	jitter_weight_faceted.r
StudyXYZ	10	12	10.0012	Scatterplot of Height vs Weight by Region with Smoothers ...	Scatterplot of Height vs Weight by Region with Smoothers	scatter_smooth_facet.PDF	scatter_smooth_facet.r
StudyXYZ	10	13	10.0013	Scatterplot of Height vs Weight by Region with Smoothers	Scatterplot of Height vs Weight by Region with Smoothers	scatter_smooth.PDF	scatter_smooth.r
StudyXYZ	10	14	10.0014	BMI Group by Visit	BMI Group by Visit	category_by_visit.PDF	category_by_visit.r
StudyXYZ	10	15	10.0015	BMI by Visit and Treatment Group	BMI by Visit and Treatment Group	continuous_by_visit_and_treatment.PDF	continuous_by_visit_and_treatment.r
StudyXYZ	10	16	10.0016	Lineplot Example	Lineplot Example	lineplot_example.PDF	lineplot_example.r

Outputplan columns



- Columns for the upper left and upper right headers are installed manually by team

ulh1	ulh2	ulh3	urh1	urh2	urh3
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		
Protocol: Comp1234	Population: ITT		Page 1 of 1		

Processing the FigureTitle column



- figuRes2::refresh.outputplan processes the FigureTitle column and creates
 - FigureTitle1, ..., FigureTitle4 based on '\n' escape character.
 - Adds columns nTitleLines to the outputplan

FigureTitle	FigureTitle1	FigureTitle2	FigureTitle3	FigureTitle4	nTitleLines
Boxplot of Age - Title fits on one line - only path, table, time...	Boxplot of Age - Title fits on one line - only path, table, time...				1
Boxplot of Height Title requires two lines	Boxplot of Height	Title requires two lines			2
Boxplot of Weight Title requires a second and a third line	Boxplot of Weight	Title requires a second	and a third line		3
Boxplot of Systolic Blood Pressure Title requires a second and...	Boxplot of Systolic Blood Pressure	Title requires a second	and a third	and a fourth line	4
Boxplot of Diastolic Blood Pressure Superscript needed in title	Boxplot of Diastolic Blood Pressure	Superscript needed in title			2
Boxplot of Body Mass Index	Boxplot of Body Mass Index				1
Boxplot of HDL Cholesterol	Boxplot of HDL Cholesterol				1
Density Plot E0 [subscript needed] Normal Distribution for ...	Density Plot E0 [subscript needed]	Normal Distribution for Primary and Sensitivity Priors			2
Cumulative Distribution Function Plot of Weight	Cumulative Distribution Function Plot of Weight				1
Plot of Individual Values of Weight with 95% Confidence Int...	Plot of Individual Values of Weight with 95% Confidence Int...				1
Plot of Individual Values of Weight with 95% Confidence Int...	Plot of Individual Values of Weight with 95% Confidence Int...				1
Scatterplot of Height vs Weight by Region with Smoothers	Scatterplot of Height vs Weight by Region with Smoothers				1
Scatterplot of Height vs Weight by Region with Smoothers	Scatterplot of Height vs Weight by Region with Smoothers				1
BMI Group by Visit	BMI Group by Visit				1
BMI by Visit and Treatment Group	BMI by Visit and Treatment Group				1
Lineplot Example	Lineplot Example				1

Actual content on FigureTitle Column

FigureTitle
 Boxplot of Age - Title fits on one line - only path, table, time footnote
 Boxplot of Height\nTitle requires two lines
 Boxplot of Weight\nTitle requires a second\nand a third line
 Boxplot of Systolic Blood Pressure\nTitle requires a second\nand a third\nand a fourth line
 Boxplot of Diastolic Blood Pressure\nSuperscript needed in title
 Boxplot of Body Mass Index
 Boxplot of HDL Cholesterol
 Density Plot E0 [subscript needed]\n Normal Distribution for Primary and Sensitivity Priors
 Cumulative Distribution Function Plot of Weight
 Plot of Individual Values of Weight with 95% Confidence Intervals
 Plot of Individual Values of Weight with 95% Confidence Intervals
 Scatterplot of Height vs Weight by Region with Smoothers
 Scatterplot of Height vs Weight by Region with Smoothers
 BMI Group by Visit
 BMI by Visit and Treatment Group
 Lineplot Example

Outputplan columns



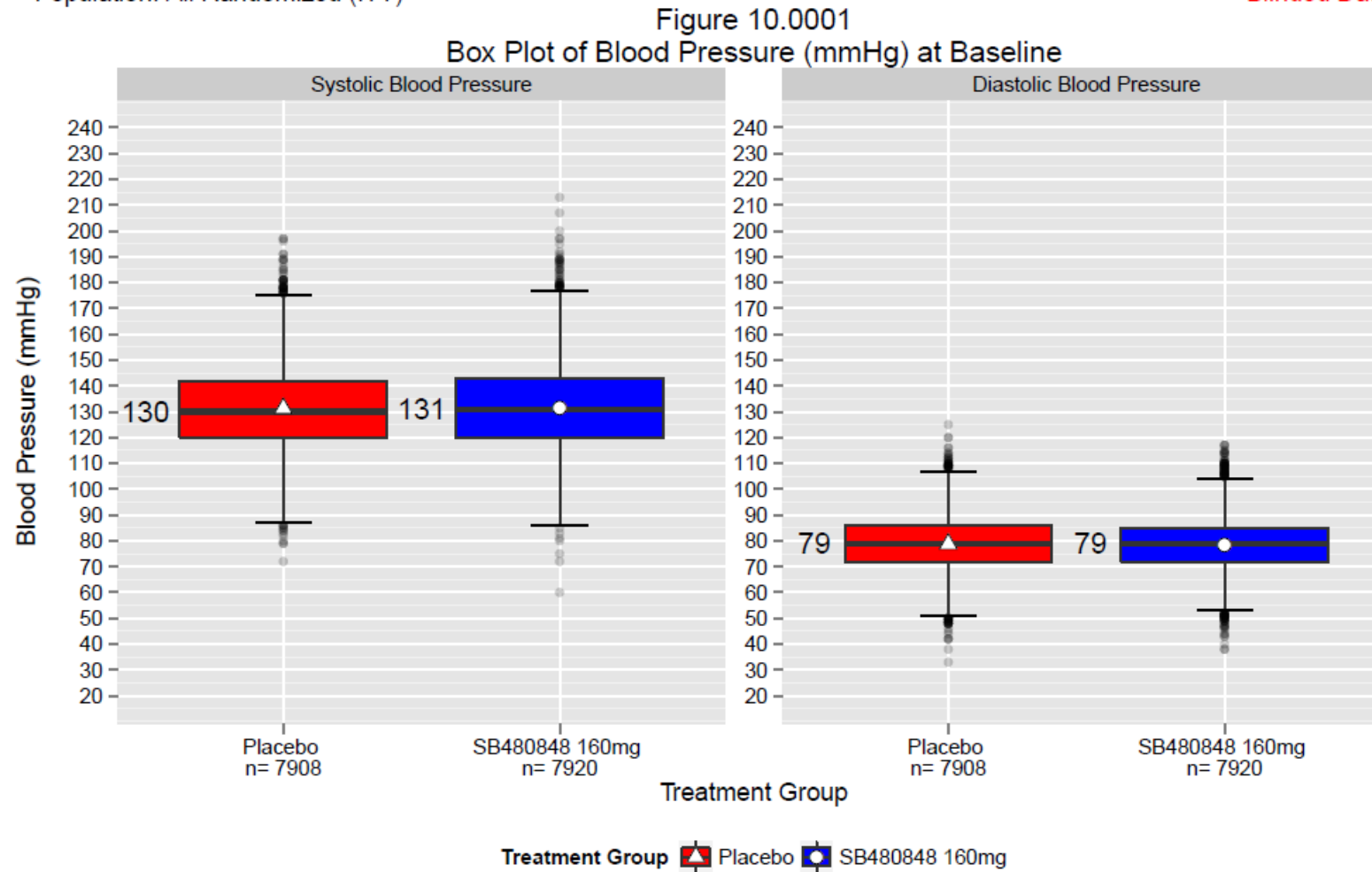
- figuRes2::refresh.outputplan processes the fnote columns and counts the number of footnote lines needed

fnote1	fnote2	fnote3	fnote4	nFootLines	TableID
				0	Table 1.1
			Note: In this example only one footnote line is needed. The...	1	Table 1.1 and 1.2
		The refresh.outputplan function identifies the number of fo...	Note: In this example two footnotes are needed.	2	Table 1.1, 1.2, and 1.3
	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example three footnotes are needed.	3	Table 1.4
In more than 4 lines of footnotes are needed, one can adapt...	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example four footnotes are needed.	4	Table 1.5
			Note: In this example only one footnote line is needed. The...	1	Table 1.6
		The refresh.outputplan function identifies the number of fo...	Note: In this example two footnotes are needed.	2	Table 1.7
	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example three footnotes are needed.	3	
In more than 4 lines of footnotes are needed, one can adapt...	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example four footnotes are needed.	4	Table 1.3
			Note: In this example only one footnote line is needed. The...	1	Table 1.3
		The refresh.outputplan function identifies the number of fo...	Note: In this example two footnotes are needed.	2	Table 1.3
	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example three footnotes are needed.	3	Table 1.3
In more than 4 lines of footnotes are needed, one can adapt...	The refresh.outputplan function identifies the number of fo...	2nd Footnote	Note: In this example four footnotes are needed.	4	Table 1.3
			Note: In this example only one footnote line is needed. The...	1	Table 1.3
		The refresh.outputplan function identifies the number of fo...	Note: In this example two footnotes are needed.	2	Table 1.3
			Only 1 footnote needed.	1	Table 1.1

- Together nTitleLines and nFootLines help to determine the graphic region desired.
- The driver files then adjust arguments to build.page and annotate.page function calls

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data



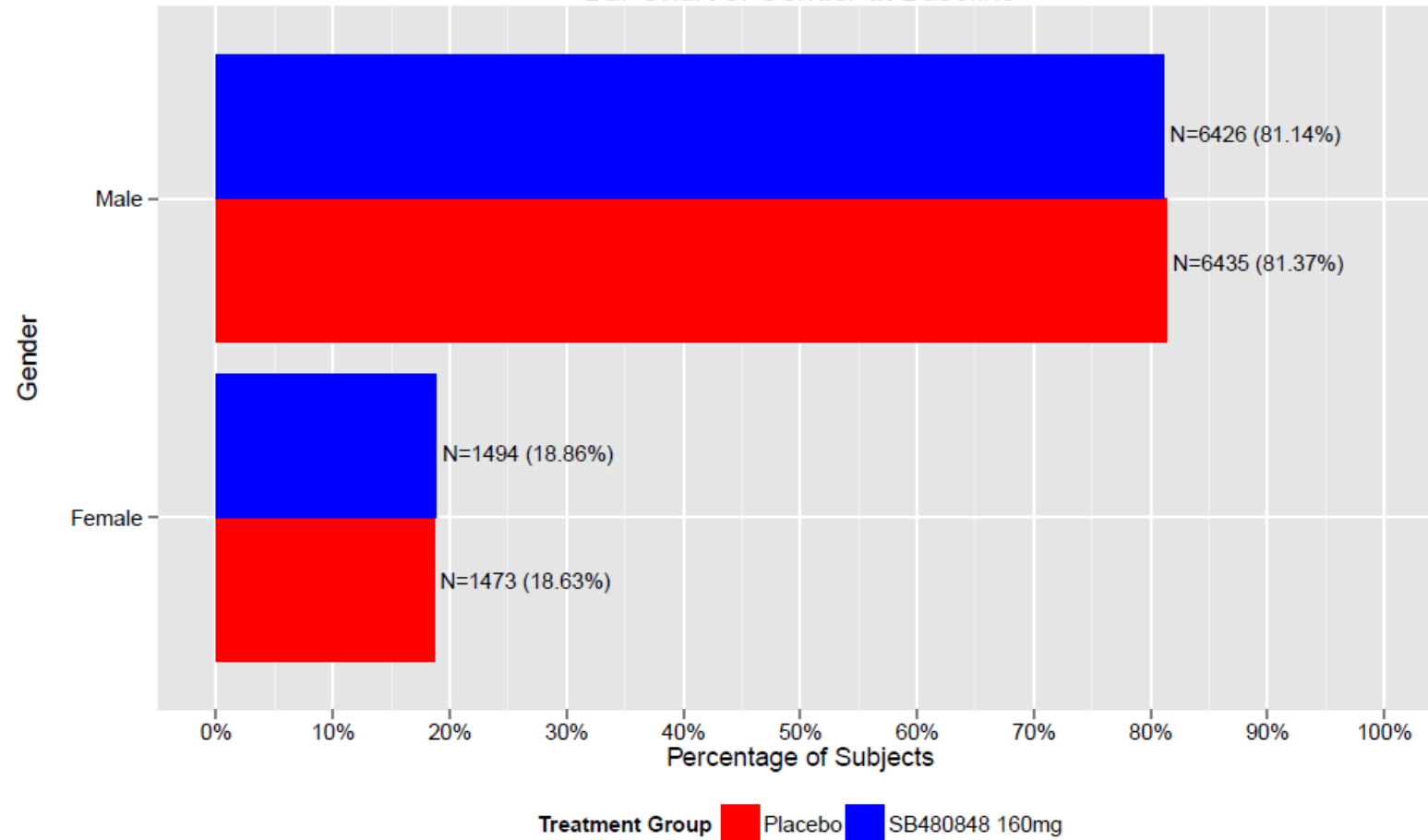
Note: Triangle [circle] identifies Placebo [SB480848 160 mg] sample mean; sample median displayed to left of boxplot.
File name: DummyPath/g_box_bp.r. Refer to Table 10.001

Jun 06, 2013 15:21 GMT

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data

Figure 10.0010
Bar Chart of Gender at Baseline

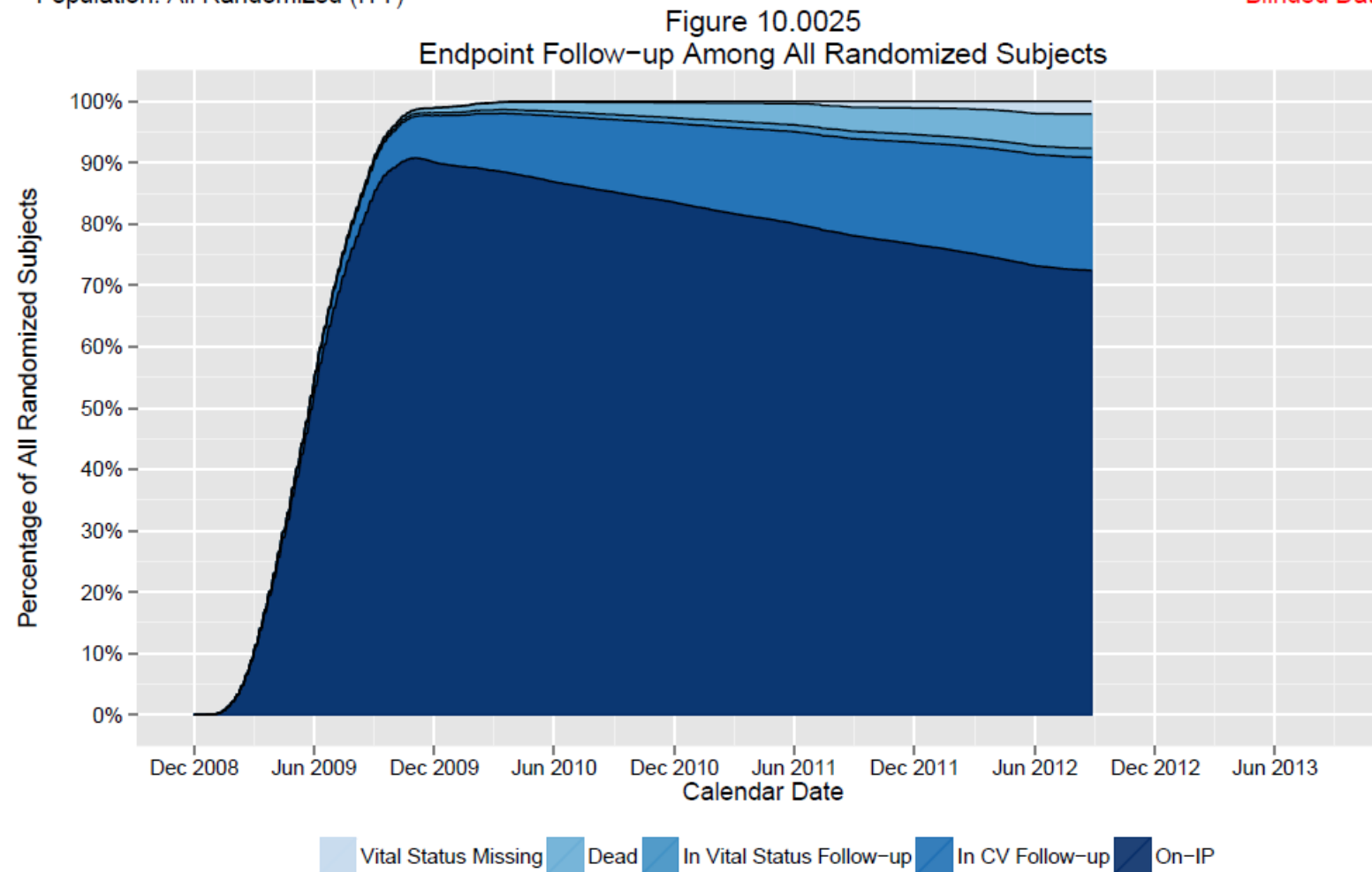


Note: Percentages are relative to sample size of treatment group totals.
File name: DummyPath/g_bar_gender.r. Refer to Table 10.001

Jun 06, 2013 15:21 GMT

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data



Note: The latest subject study completion date was MMM DD, 2013.
File name: DummyPath/g_ramp_07.r

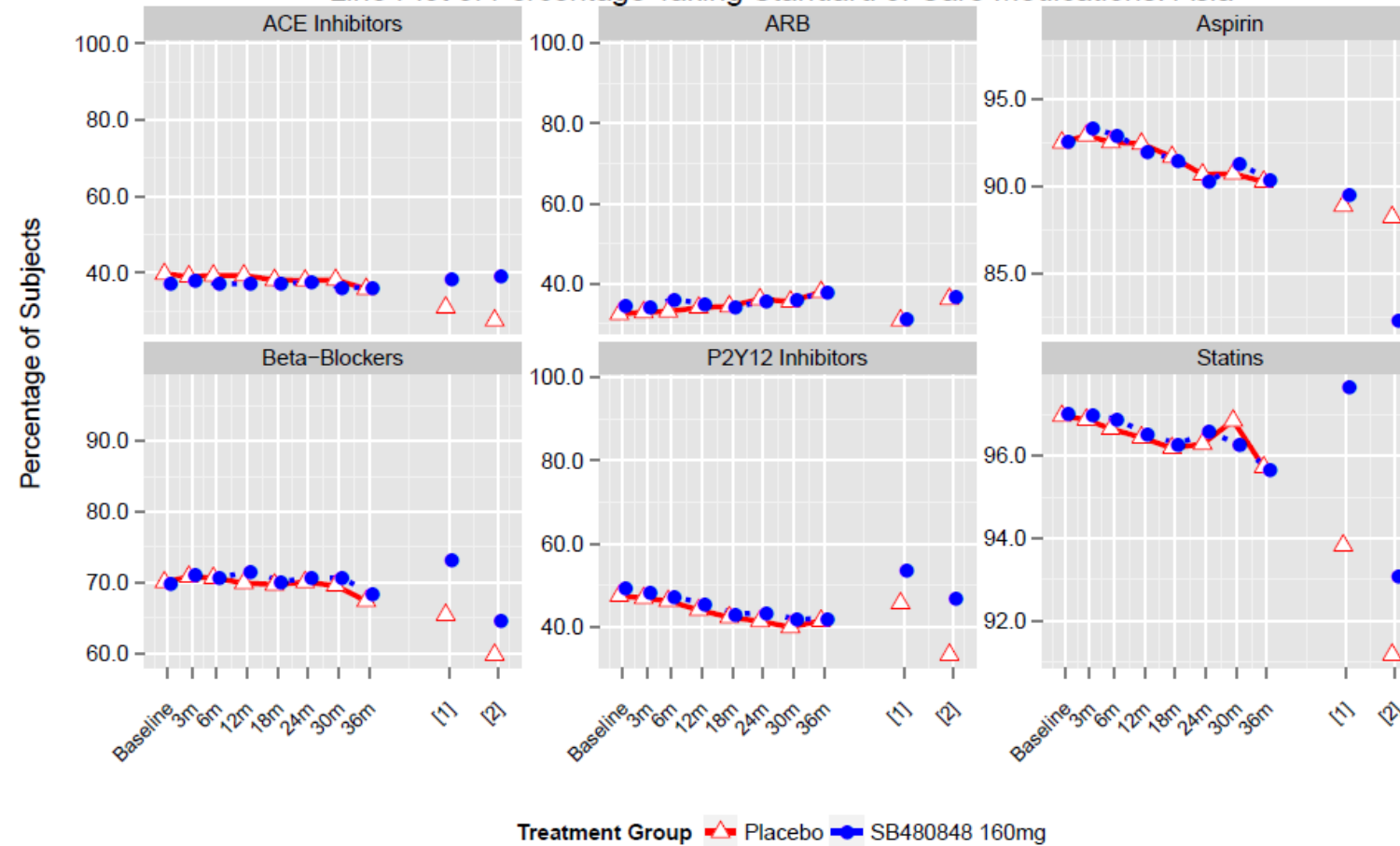
Jun 06, 2013 15:23 GMT

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data

Figure 10.0027

Line Plot of Percentage Taking Standard of Care Medications: Asia

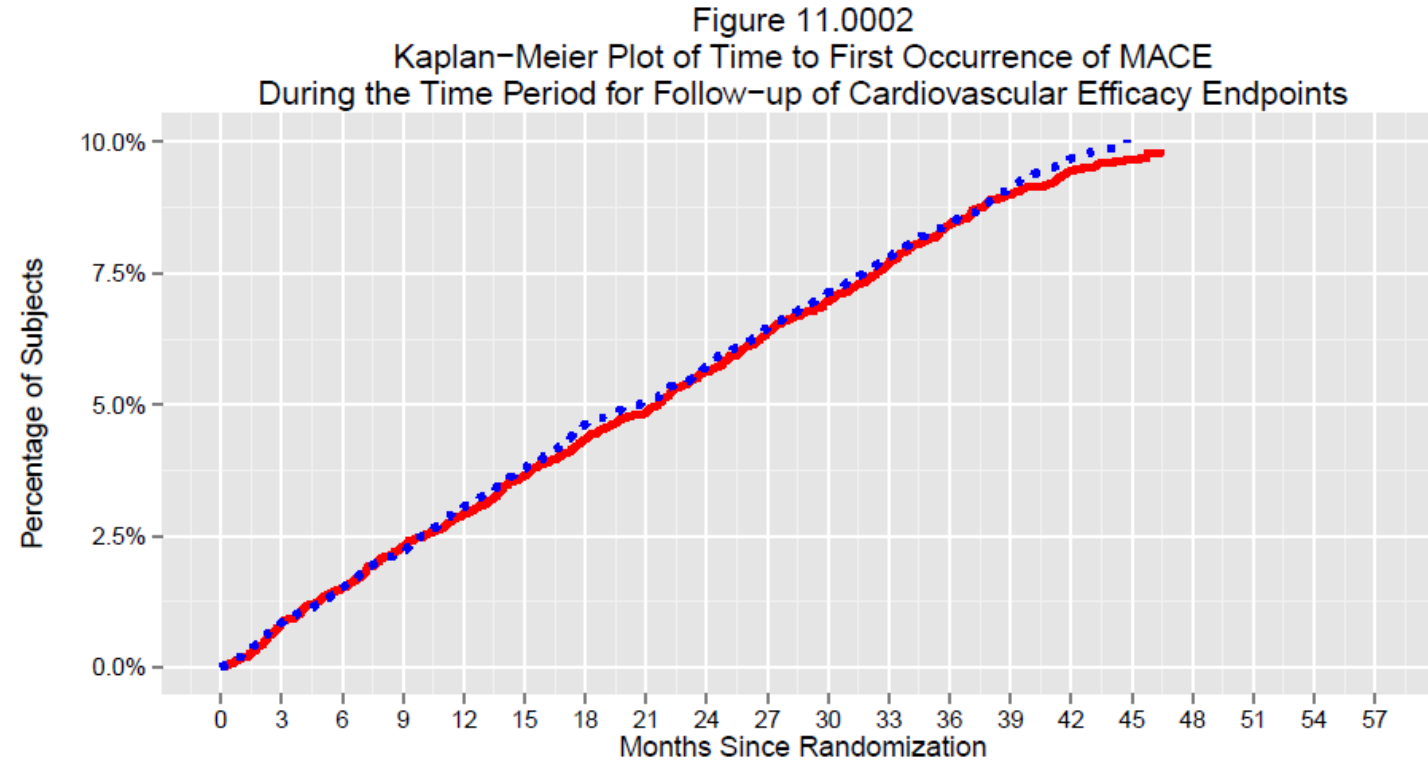


Note: [1] Early IP Withdrawal, [2] Follow-up
File name: DummyPath/g_medsocr_Asi.r. Refer to Table 10.0041

Jun 06, 2013 15:23 GMT

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data



Number At Risk

Placebo	7577	7431	7350	7263	7189	7105	7032	6972	6878	6798	6728	6650	6547	6364	5395	3081	549	0	0	0
160mg	7577	7424	7325	7242	7154	7082	6997	6941	6862	6789	6719	6652	6548	6342	5404	3014	555	1	1	0

Treatment Group — Placebo ■ 160mg

Placebo Events: 647; SB 4 | Events: 670. HR: 1.04; P-value: 0.515. 95% Confidence Interval: (0.93, 1.15).
File name: DummyPath/g_KMfmace.r. Refer to Table 11.0006

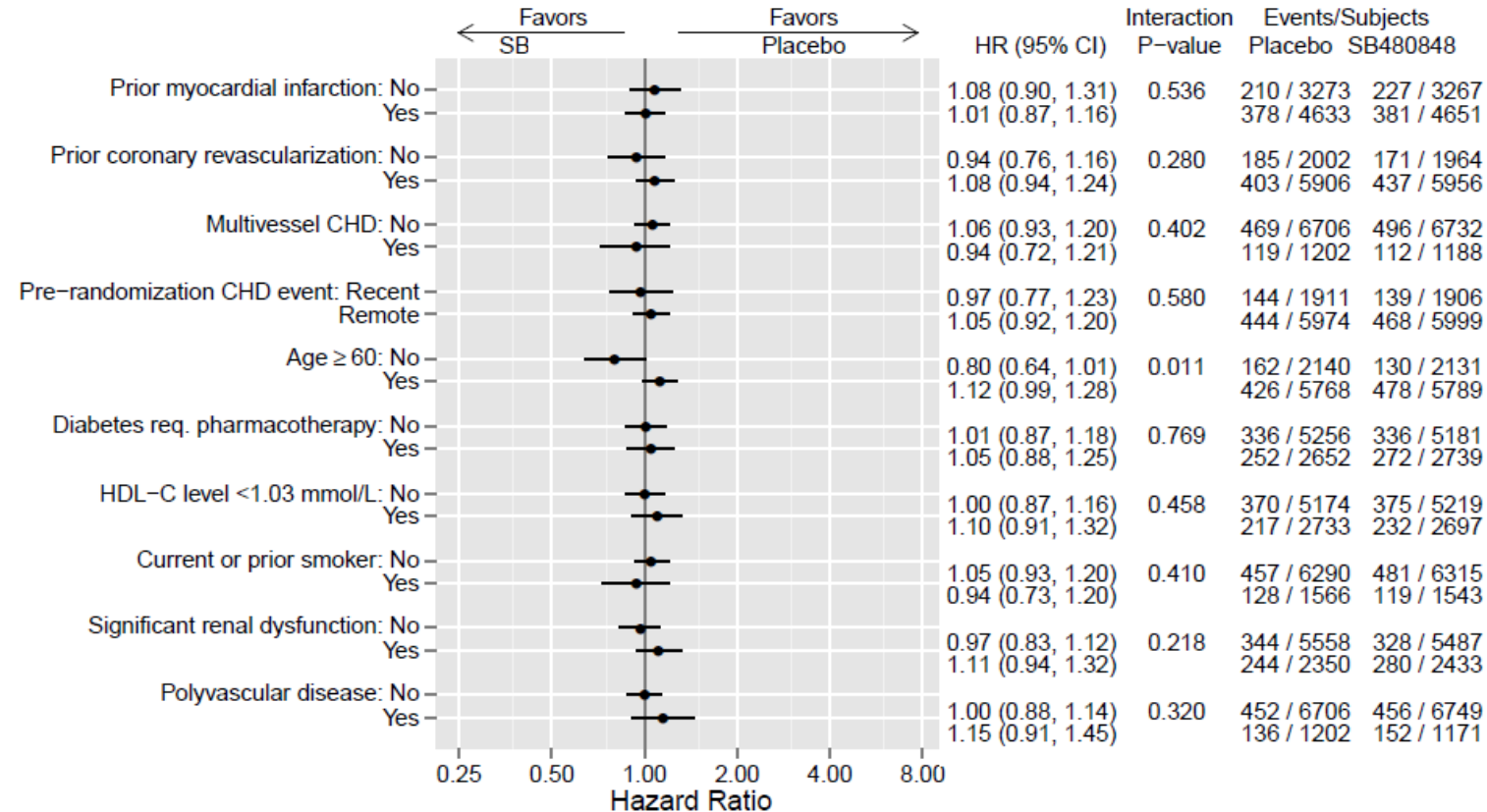
Jun 06, 2013 15:23 GMT

Protocol:
Population: All Randomized (ITT)

Page 1 of 1
Blinded Data

Figure 11.0003

Forest Plot of the Hazard Ratios from Cox Proportional Hazard Models of Time to MACE: Set 1



Note: The p-value for the treatment by subgroup interaction term is presented.

Note: 1.03 mmol/L corresponds to 40 mg/dL.

File name: DummyPath/g_FP1.r. Refer to Table 11.0035

Jun 06, 2013 15:23 GMT

