

# Quick Start Guide

Use this document as a quick reference guide while you click through the *RCT-YES* program (see the User's Manual for more details). Before opening *RCT-YES*, you should have:

- R or Stata installed on your computer (go to [www.cran.r-project.org](http://www.cran.r-project.org) to download the free R software and to [www.stata.com](http://www.stata.com) for Stata)
- A data file accessible from your computer, which will be used in the analysis. This file should be a .dta file if you plan to use Stata or a .rds file if you will use R. You can create R and Stata data files from Excel (.csv) or related files.
- A directory where you will store files associated with the analysis
- If you want to plot your results, you must use the R software and install three free R packages by typing the following line in the R workspace: `install.packages(c("shiny", "shinydashboard", "ggplot2"), repos="https://cran.rstudio.com")`

## Launch RCT-YES

You can launch *RCT-YES* in three ways:

- Double click the *RCT-YES* icon on your desktop
- Use the **Start** menu on your desktop to navigate to the *RCT-YES* program
- Open a previously-saved .rctyes file in the directory where it was saved



## Getting Started

Once you have opened *RCT-YES*, you can start entering information for your analysis. This information will be saved in an input file with a .rctyes extension. In the **R/Stata and Input Data** subtab, select the package you wish to use (R or Stata), then click the browse button to find the data file you want to use. Make sure your file is a .rds file if using R or a .dta file for Stata.

## Create Variable List

To save time as you enter program inputs, create a variable list using these steps:

- Under the **Generate Variable List** subtab, type a name for your program and variable list files
- Use the **Browse** buttons to specify a directory in which to save your program and variable list files
- Click **Generate Program File** and then **Next**
- *Outside RCT-YES*, run the program file, which is now saved to the directory you specified. This produces a variable list file with the same name.
- On the **Import Variable List** subtab, use the browse button to navigate to the folder you specified in the previous screen and select your variable list file [.varlist extension]
- Click **Import Variable List**

The variable list will open automatically. You can now select each variable from the list as you enter inputs in subsequent screens. If you close the variable list, you can re-open it by clicking **Variables** in the toolbar menu.



## Enter Program Inputs

Next, enter the remaining program inputs in the following series of screens:

- Design Selection
- Required Design Parameters
- Optional Design & Analysis Parameters (note that you do not need to change the default values)
- Outcomes, Weights, Covariates, & Subgroups
- Baseline Equivalence Analysis



## Generate Output Files

Before you generate output files, you should make sure you have specified file locations for all the files used and generated by *RCT-YES* including:

- The input file to save your work for future use [.rctyes extension]
- The analysis program [.do or .R extension]
- Several output files produced by the analysis program

You can enter these directory and file names in the Output File Information screen.

- Click the **Generate Output Files** tab or select the **Generate** menu and **Generate Output Files** command
- Enter the common base name for all files in the Output File Information screen that pops up
- Click the **Generate Files** button at the bottom of the Output File Information screen to save the files

A pop-up window will provide information on the files that were successfully generated and file generation errors. If needed, fix errors, generate the files, and exit or minimize the interface.



## Conduct Analysis

Run the R or Stata program file outside the interface as you would normally run such programs (see box to the right). This program will use the input dataset and specifications you named to conduct the analysis. The program will create the following files in the directories you specified:

- A .html file containing formatted tables of analysis results
- A .csv file for further reporting and analyses
- A .R program (with a “\_graph” suffix) that can be used to plot the impact results using *RCT-YES-Graph*
- A .log file with regression results



## Plot Results in R

In addition to formatted tables containing your results, *RCT-YES-Graph* can produce plots to visually convey them. Make sure you have installed the free shiny, shinydashboard, and ggplots packages (see the introduction to this guide). Simply run the R program file ending “\_graph.R” created by the analysis program. Doing so will bring up a dashboard window in a web browser. Select the .csv file produced by the analysis program and other inputs by scrolling down the left-hand side of the dashboard. After pressing the **Submit** button, your graph should appear in the right-hand side of the dashboard. You can save each graph to a file by pressing the **Download Plot** button.

## Using R and Stata with *RCT-YES*

*RCT-YES* is designed to make evaluation simple by using your data to create user-friendly analysis programs. These **program files must be run inside R or Stata** to perform the analysis and create output tables and graphs. No programming knowledge is required to run the programs—simply follow these steps:

### Running an R program

To run a program in R, start by opening up R:

- Double click on the icon or use the **Start** menu on your desktop to navigate to the R program
- Under the **File** menu, select **Source R code** and navigate to your program file [.R extension] created in *RCT-YES*
- Click **Open**. R will run the program and produce any file you requested.

### Running a Stata program

To run a program in Stata, start by opening up Stata:

- Double click on the Stata icon or use the **Start** menu on your desktop to navigate to the Stata program
- Under the **File** menu, select **Do** and navigate to your program file [.do extension] created in *RCT-YES*
- Click **Open**. Stata will run the program and produce any file you requested.