

# Quickstart Guide: zztable1

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## Overview

**zztable1** is a next-generation R package for creating publication-quality summary tables (Table 1) with a flexible blueprint-based architecture. The package features lazy evaluation, sparse storage, and medical journal themes (NEJM, Lancet, JAMA).

## Installation

```
# Install from GitHub
devtools::install_github("rgt47/zztable1")

library(zztable1)
```

## Basic Usage

Create a Table 1 using a formula interface:

```
# Formula: grouping_variable ~ variables_to_summarize
table1(~arm ~ age + sex + bmi, data = trial_data)
```

## Example with mtcars

```
# Create grouping variable
mtcars$transmission <- factor(mtcars$am, labels = c("Automatic", "Manual"))

# Generate Table 1
table1(transmission ~ mpg + hp + wt + cyl, data = mtcars)
```

## Key Features

### Medical Journal Themes

Publication-ready themes matching actual journal formatting:

```
# New England Journal of Medicine
table1(~arm ~ age + sex, data = data, theme = "nejm")

# The Lancet
table1(~arm ~ age + sex, data = data, theme = "lancet")

# JAMA
table1(~arm ~ age + sex, data = data, theme = "jama")
```

```
# Minimal (default)
table1(arm ~ age + sex, data = data, theme = "minimal")
```

## Statistical Tests

Automatic p-value calculation with configurable tests:

```
# Default tests (t-test for continuous, chi-square for categorical)
table1(arm ~ age + sex, data = data, test = TRUE)

# Specify test types
table1(arm ~ age + sex, data = data,
       continuous_test = "kruskal",
       categorical_test = "fisher")
```

Available tests:

- Continuous: "ttest", "anova", "welch", "kruskal"
- Categorical: "chisq", "fisher"

## Numeric Summary Options

```
# Mean (SD) - default
table1(arm ~ age, data = data, numeric_summary = "mean_sd")

# Median [IQR]
table1(arm ~ age, data = data, numeric_summary = "median_iqr")

# Mean (95% CI)
table1(arm ~ age, data = data, numeric_summary = "mean_ci")

# Median (range)
table1(arm ~ age, data = data, numeric_summary = "median_range")
```

## Stratified Analysis

Multi-center or multi-site stratification:

```
table1(arm ~ age + sex, data = data, strata = "site")
```

## Missing Data

Display missing value counts:

```
table1(arm ~ age + sex, data = data, missing = TRUE)
```

## Output Formats

### Console Output

```
tbl <- table1(arm ~ age + sex, data = data)
print(tbl)
```

## HTML Output

```
tbl <- table1(arm ~ age + sex, data = data)
render_html(tbl)
```

## LaTeX Output

```
tbl <- table1(arm ~ age + sex, data = data)
render_latex(tbl)
```

## Function Reference

Function	Purpose
table1()	Create Table 1 blueprint
print()	Console output
render_html()	HTML output
render_latex()	LaTeX output
list_available_themes()	Show available themes

## Quick Reference

### Formula Syntax

grouping\_variable ~ var1 + var2 + var3

### Key Parameters

Parameter	Description	Default
theme	Journal theme	“minimal”
test	Include p-values	FALSE
missing	Show missing counts	FALSE
numeric_summary	Summary type	“mean_sd”
strata	Stratification variable	NULL

## Next Steps

- vignette("theming\_system") - Medical journal themes
- vignette("customizing\_statistics") - Custom summary functions
- vignette("stratified\_examples") - Multi-center analyses
- vignette("dataset\_examples") - Complete examples