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")
```

```r
# Console (default)
table1(arm ~ age + sex, data = data, theme = "console")
```

Statistical Tests

Automatic p-value calculation with configurable tests:

```r
# 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

```r
# 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:

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

Missing Data

Display missing value counts:

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

Output Formats

Console Output

```r
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	"console"
`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