Theming System Demonstration

zztable1_nextgen

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Contents

1 Introduction

The `zztable1_nextgen` package includes a comprehensive theming system that allows you to format tables according to different journal standards. This vignette demonstrates three major medical journal themes: NEJM, Lancet, and JAMA.

2 Sample Data Setup

We'll use a consistent clinical trial dataset throughout this vignette to clearly show the differences between themes.

```
# Create a realistic clinical trial dataset
set.seed(123)
n <- 200

clinical_data <- data.frame(
  treatment = factor(
    sample(c("Placebo", "Drug A", "Drug B"), n, replace = TRUE, prob = c(0.4, 0.3, 0.3)),
    levels = c("Placebo", "Drug A", "Drug B")
  ),
  age = round(rnorm(n, 65, 12)),
  sex = factor(sample(c("Male", "Female"), n, replace = TRUE, prob = c(0.6, 0.4))),
  bmi = round(rnorm(n, 28, 5), 1),
  diabetes = factor(sample(c("No", "Yes"), n, replace = TRUE, prob = c(0.7, 0.3)))
)
```

```r
# Add some missing values to make it realistic
clinical_data$bmi[sample(1:n, 10)] <- NA

head(clinical_data)
```

treatment age sex bmi diabetes 1 Placebo 56 Male 27.6 Yes 2 Drug A 68 Female 22.2 Yes 3 Drug B 62 Male 24.8 No 4 Drug A 61 Male 27.9 Yes 5 Drug A 54 Male 31.4 No 6 Placebo 64 Female 19.7 Yes

3 Journal-Specific Themes

3.1 New England Journal of Medicine (NEJM) Theme

NEJM style emphasizes clean, minimal formatting with the distinctive ± (plus-minus) format for continuous variables.

```r
create_table(
  treatment ~ age + sex + bmi + diabetes,
  data = clinical_data,
  theme = "nejm",
  pvalue = TRUE,
  totals = TRUE
)
```

% NEJM theme colors and formatting

variables	Placebo	Drug A	Drug B	Total	p.value
age	65.8 ± 13.5	63.9 ± 9.2	65.3 ± 10.9	65.1 ± 11.6	0.3525
sex					
Female	33 (43%)	28 (51%)	19 (28%)	80 (40%)	0.0274
Male	44 (57%)	27 (49%)	49 (72%)	120 (60%)	
bmi	27.9 ± 5.2	28.4 ± 4.3	28.3 ± 4.6	28.2 ± 4.7	0.5698
diabetes					
No	59 (77%)	37 (67%)	50 (74%)	146 (73%)	0.489
Yes	18 (23%)	18 (33%)	18 (26%)	54 (27%)	

Key NEJM Features: - Uses ± symbol for mean (standard deviation) - Minimal borders with top/middle/bottom rules only - Alternating light yellow/cream row striping for improved readability - Bold headers - 1 decimal place precision - Clean, professional appearance matching actual NEJM publications

3.2 The Lancet Theme

The Lancet style uses parentheses format and slightly different formatting conventions.

```r
create_table(
  treatment ~ age + sex + bmi + diabetes,
  data = clinical_data,
  theme = "lancet",
  pvalue = TRUE,
  totals = TRUE
)
```

% Lancet theme formatting

variables	Placebo	Drug A	Drug B	Total	p.value
age	65.8 (13.5)	63.9 (9.2)	65.3 (10.9)	65.1 (11.6)	0.3525
sex					
Female	33 (43%)	28 (51%)	19 (28%)	80 (40%)	0.0274
Male	44 (57%)	27 (49%)	49 (72%)	120 (60%)	
bmi	27.9 (5.2)	28.4 (4.3)	28.3 (4.6)	28.2 (4.7)	0.5698
diabetes					
No	59 (77%)	37 (67%)	50 (74%)	146 (73%)	0.489
Yes	18 (23%)	18 (33%)	18 (26%)	54 (27%)	

Key Lancet Features: - Uses parentheses for mean (standard deviation) - Clean white background with minimal horizontal-only borders - Sans-serif font family - 1 decimal place precision - Professional medical journal appearance

3.3 JAMA Theme

JAMA formatting follows conservative guidelines typical of American medical publications.

```
create_table(
  treatment ~ age + sex + bmi + diabetes,
  data = clinical_data,
  theme = "jama",
  pvalue = TRUE,
  totals = TRUE
)
```

% JAMA theme formatting

variables	Placebo	Drug A	Drug B	Total	p.value
age	65.8 (13.5)	63.9 (9.2)	65.3 (10.9)	65.1 (11.6)	0.3525
sex					
Female	33 (43%)	28 (51%)	19 (28%)	80 (40%)	0.0274
Male	44 (57%)	27 (49%)	49 (72%)	120 (60%)	
bmi	27.9 (5.2)	28.4 (4.3)	28.3 (4.6)	28.2 (4.7)	0.5698
diabetes					
No	59 (77%)	37 (67%)	50 (74%)	146 (73%)	0.489
Yes	18 (23%)	18 (33%)	18 (26%)	54 (27%)	

Key JAMA Features: - Uses parentheses for mean (standard deviation) - Clean white background with minimal horizontal-only borders - Traditional medical journal appearance
- 1 decimal place precision - Lettered footnote style

4 Theme Comparison Summary

Table 1: Theme Comparison Summary

Theme	Continuous Variables	Border Style	Font	Decimal Places	Best For
NEJM	Mean ± SD	Top/Mid/Bottom rules + striping	Arial, sans-serif	1	NEJM submissions
Lancet	Mean (SD)	Horizontal rules only	Arial, sans-serif	1	Lancet submissions

Theme	Continuous Variables	Border Style	Font	Decimal Places	Best For
JAMA	Mean (SD)	Horizontal rules only	Arial, sans-serif	1	JAMA & American journals

5 Usage Guidelines

Choose themes based on your target publication:

- **NEJM Theme**: Use for New England Journal of Medicine submissions or when you prefer the distinctive ± format
- **Lancet Theme**: Use for The Lancet submissions or European medical journals
- **JAMA Theme**: Use for JAMA submissions or other American medical publications

All themes maintain the same high performance and feature set while providing publication-ready formatting tailored to specific journal requirements.

6 Available Themes

```
available_themes <- list_available_themes()
print(available_themes)
```

[1] “console” “nejm” “lancet” “jama” “simple”

The package includes 5 built-in themes. The three demonstrated above represent the most commonly used medical journal styles.