# A demonstration of the LATEX class file for Statistical Methods in Medical Research with Rmarkdown

Journal Title
XX(X):1–5
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DOI: 10.1177/ToBeAssigned
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#### Abstract

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#### **Keywords**

Class file; LATEX; SMMR; Rmarkdown;

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## The Article Header Information

#### YAML header:

```
output:
   rticles::sim_article:
    keep tex: TRUE
```

Configure the YAML header including the following elements:

- title: Title
- runninghead: Author last names, use *et al.* if there are three or more authors.
- author: List of author(s) containing name and num
- corrauth: Corresponding author's name and address.
- email: Correspondence email
- abstract: Limited to 200 words
- keywords: Keywords for the article
- bibliography: BibTeX .bib file
- bibliographystyle: sageh or sagev
- classoption: options of the sagej class

#### Remarks

- 2. bibliographystyle
- 3. classoption
- 4. Keywords are separated by commas.

# The Body of the Article

## Mathematics

Use mathematics in Rmarkdown as usual.

## Figures and Tables

Figures are supported from R code:

```
x = rnorm(10)

y = rnorm(10)

plot(x, y)
```

Analogously, use Rmarkdown to produce tables as usual:

```
if (!require("xtable")) install.packages("xtable")
```

Uthor et al. 3

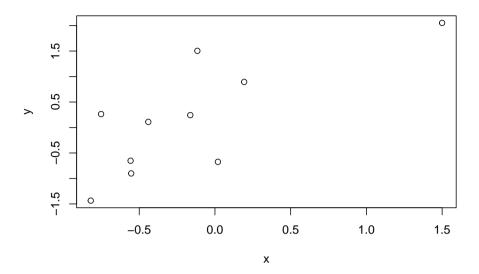


Figure 1. Fancy Caption

```
## Loading required package: xtable
## Warning: package 'xtable' was built under R version 4.0.3
xt <- xtable(head(cars), caption = "A table", label = "tab:table")
print(xt, comment = FALSE)</pre>
```

	speed	dist
1	4.00	2.00
2	4.00	10.00
3	7.00	4.00
4	7.00	22.00
5	8.00	16.00
6	9.00	10.00

Table 1. A table

Referenced via 1. You can also use the YAML option header-includes to includes custom LATEX packages for tables (keep in mind that pandoc uses longtables by default, and it is hardcoded; some things may require including the package longtable). E.g., using ctable:

usual

```
header-includes:
- \usepackage{ctable}
                  straight-up LATEXcode
                                           reference
        iust
            write
                                      and
(\ref{tab:ctable}):
\ctable[cap = {Short caption},
        caption = {A caption for this table.},
        label={tab:ctable},]
        {cc}
        \tnote[$\ast$]{Footnote 1}
        \tnote[$\dagger$]{Other footnote}
        \tnote[b]{Mistakes are possible.}
        \FL
        COL 1\tmark[a] & COL 2\tmark[$\ast$]
        6.92\tmark[$\dagger$] & 0.09781 \\
        6.93\tmark[$\dagger$] & 0.09901 \\
        97 & 2000
        \LL
}
```

It is also possible to set the YAML option longtable: true and use markdown tables (or the knitr::kable function): knitr::kable (head(cars)) produces the same table as the xtable example presented before.

# Cross-referencing

The use of the Rmarkdown equivalent of the LaTeXcross-reference system for figures, tables, equations, etc., is encouraged (using <code>[@<name>]</code>, equivalent of  $\ref{<name>}$  and  $\adjustle{name>}$ ). That works well for citations in Rmarkdown, not so well for figures and tables. In that case, it is possible to revert to standard LaTeXsyntax.

## Double Spacing

If you need to double space your document for submission please use the doublespace option in the header.

## **Bibliography**

Link a .bib document via the YAML header, and bibliography will be printed at the very end (as usual). The default bibliography style is provided by Wiley as in WileyNJD-AMA.bst, do not delete that file.

Uthor et al. 5

Use the Rmarkdown equivalent of the LaTeXcitation system using [@<name>]. Example: (Taylor and Green 1937), (Knupp 1999; Kamm 2000).

To include all citation from the .bib file, add  $\ncite{*}$  before the end of the document.

## **Further information**

All LaTeX environments supported by the main template are supported here as well; see the .tex sample file here for more details and example.

#### References

- Kamm J (2000) Evaluation of the Sedov-von Neumann-Taylor blast wave solution. Technical Report Technical Report LA-UR-00-6055, Los Alamos National Laboratory.
- Knupp P (1999) Winslow smoothing on two-dimensional unstructured meshes. *Eng Comput* 15: 263–268.
- Taylor G and Green A (1937) Mechanism of the production of small eddies from large ones. *P Roy Soc Lond A Mat* 158(895): 499–521.