Bookdown example

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# Trial report

Here is some information about the trial report.

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# Presentation of data

## Using knitr::kable()

Here is our trial data, presented using knitr::kable().

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| patient | date\_of\_treatment | drug\_treatment | primary\_endpoint\_1 | primary\_endpoint\_2 |
| N0001 | 2016-09-03 | Drug Y | NA | NA |
| N0002 | 2018-12-14 | Drug X+Y | -21.53525 | 5.355703 |
| N0003 | 2017-04-07 | Drug X+Y | 12.38013 | 5.899606 |
| N0004 | 2017-12-06 | Drug X+Y | -23.60512 | 17.395668 |
| N0005 | 2018-01-02 | Drug X+Y | -15.72203 | 5.984895 |
| N0006 | 2017-01-28 | Drug X | 30.90133 | 14.870191 |
| N0007 | 2015-04-25 | Drug Y | 44.98334 | 6.599286 |
| N0008 | 2017-08-10 | Drug X+Y | NA | NA |
| N0009 | 2016-08-04 | Drug X+Y | NA | NA |
| N0010 | 2017-03-13 | Drug X | NA | NA |
| N0011 | 2019-04-29 | Drug Y | 10.67208 | 13.495842 |
| N0012 | 2015-09-17 | Drug X | NA | NA |
| N0013 | 2016-04-21 | Drug X+Y | 48.08371 | 19.221673 |
| N0014 | 2016-03-30 | Drug Y | -43.53955 | 8.941159 |
| N0015 | 2019-04-16 | Drug Y | -47.41920 | 10.101670 |
| N0016 | 2016-07-11 | Drug X+Y | 9.82042 | 13.602186 |
| N0017 | 2016-12-19 | Drug X | 41.84378 | 3.291631 |
| N0018 | 2015-09-02 | Drug X+Y | -14.08114 | 18.974535 |
| N0019 | 2017-03-23 | Drug X+Y | 15.81731 | 6.425505 |
| N0020 | 2016-11-01 | Drug X+Y | -17.41739 | 9.300616 |

There are some things that we can’t do using kable. This includes:

* merging cells in the header
* conditional formatting (font colour, fill, style etc.)
* dynamic formatting (i.e., changes with value in a variable)
* white space within cells (useful for subtypes) - not covered here

## Using flextable()

First, some basics.

1. formatting cell contents
2. displaying a preview in Word
3. autofitting the contents
4. changing header titles

These can all be done by the more basic kable() function.

## a flextable object.  
## col\_keys: `patient`, `date\_of\_treatment`, `drug\_treatment`, `primary\_endpoint\_1`, `primary\_endpoint\_2`   
## header has 1 row(s)   
## body has 20 row(s)   
## original dataset sample:   
## patient date\_of\_treatment drug\_treatment primary\_endpoint\_1  
## 1 N0001 2016-09-03 Drug Y NA  
## 2 N0002 2018-12-14 Drug X+Y -21.53525  
## 3 N0003 2017-04-07 Drug X+Y 12.38013  
## 4 N0004 2017-12-06 Drug X+Y -23.60512  
## 5 N0005 2018-01-02 Drug X+Y -15.72203  
## primary\_endpoint\_2  
## 1 NA  
## 2 5.355703  
## 3 5.899606  
## 4 17.395668  
## 5 5.984895

Here are a few thing that we can do with flextable (that you can’t do with kable()…or at least I couldn’t work out how to do them with kable()).

1. Merging cells in the header
2. Fine control over borders

## a flextable object.  
## col\_keys: `patient`, `date\_of\_treatment`, `drug\_treatment`, `primary\_endpoint\_1`, `primary\_endpoint\_2`   
## header has 2 row(s)   
## body has 20 row(s)   
## original dataset sample:   
## patient date\_of\_treatment drug\_treatment primary\_endpoint\_1  
## 1 N0001 2016-09-03 Drug Y NA  
## 2 N0002 2018-12-14 Drug X+Y -21.53525  
## 3 N0003 2017-04-07 Drug X+Y 12.38013  
## 4 N0004 2017-12-06 Drug X+Y -23.60512  
## 5 N0005 2018-01-02 Drug X+Y -15.72203  
## primary\_endpoint\_2  
## 1 NA  
## 2 5.355703  
## 3 5.899606  
## 4 17.395668  
## 5 5.984895

Something that I find really useful is the conditional formatting. This lets you emphasize particular rows/columns/cells to which you want to draw the reader’s attention.

|  |  |  | **Primary endpoints** | |
| --- | --- | --- | --- | --- |
| **Patient** | **Treatment date** | **Treatment** | **(1)** | **(2)** |
| N0001 | 03-09-2016 | Drug Y | - | - |
| N0002 | 14-12-2018 | Drug X+Y | -21.54 | 5.36 |
| N0003 | 07-04-2017 | Drug X+Y | 12.38 | 5.90 |
| N0004 | 06-12-2017 | Drug X+Y | -23.61 | 17.40 |
| N0005 | 02-01-2018 | Drug X+Y | -15.72 | 5.98 |
| N0006 | 28-01-2017 | Drug X | 30.90 | 14.87 |
| N0007 | 25-04-2015 | Drug Y | 44.98 | 6.60 |
| N0008 | 10-08-2017 | Drug X+Y | - | - |
| N0009 | 04-08-2016 | Drug X+Y | - | - |
| N0010 | 13-03-2017 | Drug X | - | - |
| N0011 | 29-04-2019 | Drug Y | 10.67 | 13.50 |
| N0012 | 17-09-2015 | Drug X | - | - |
| N0013 | 21-04-2016 | Drug X+Y | 48.08 | 19.22 |
| N0014 | 30-03-2016 | Drug Y | -43.54 | 8.94 |
| N0015 | 16-04-2019 | Drug Y | -47.42 | 10.10 |
| N0016 | 11-07-2016 | Drug X+Y | 9.82 | 13.60 |
| N0017 | 19-12-2016 | Drug X | 41.84 | 3.29 |
| N0018 | 02-09-2015 | Drug X+Y | -14.08 | 18.97 |
| N0019 | 23-03-2017 | Drug X+Y | 15.82 | 6.43 |
| N0020 | 01-11-2016 | Drug X+Y | -17.42 | 9.30 |

Don’t have to use hardcoded values - you can use values that you have stored in variables.

Here I am highlighting those cells that are greater than the mean for each of the endpoints.

|  |  |  | **Primary endpoints** | |
| --- | --- | --- | --- | --- |
| **Patient** | **Treatment date** | **Treatment** | **(1)** | **(2)** |
| N0001 | 03-09-2016 | Drug Y | - | - |
| N0002 | 14-12-2018 | Drug X+Y | -21.54 | 5.36 |
| N0003 | 07-04-2017 | Drug X+Y | 12.38 | 5.90 |
| N0004 | 06-12-2017 | Drug X+Y | -23.61 | 17.40 |
| N0005 | 02-01-2018 | Drug X+Y | -15.72 | 5.98 |
| N0006 | 28-01-2017 | Drug X | 30.90 | 14.87 |
| N0007 | 25-04-2015 | Drug Y | 44.98 | 6.60 |
| N0008 | 10-08-2017 | Drug X+Y | - | - |
| N0009 | 04-08-2016 | Drug X+Y | - | - |
| N0010 | 13-03-2017 | Drug X | - | - |
| N0011 | 29-04-2019 | Drug Y | 10.67 | 13.50 |
| N0012 | 17-09-2015 | Drug X | - | - |
| N0013 | 21-04-2016 | Drug X+Y | 48.08 | 19.22 |
| N0014 | 30-03-2016 | Drug Y | -43.54 | 8.94 |
| N0015 | 16-04-2019 | Drug Y | -47.42 | 10.10 |
| N0016 | 11-07-2016 | Drug X+Y | 9.82 | 13.60 |
| N0017 | 19-12-2016 | Drug X | 41.84 | 3.29 |
| N0018 | 02-09-2015 | Drug X+Y | -14.08 | 18.97 |
| N0019 | 23-03-2017 | Drug X+Y | 15.82 | 6.43 |
| N0020 | 01-11-2016 | Drug X+Y | -17.42 | 9.30 |