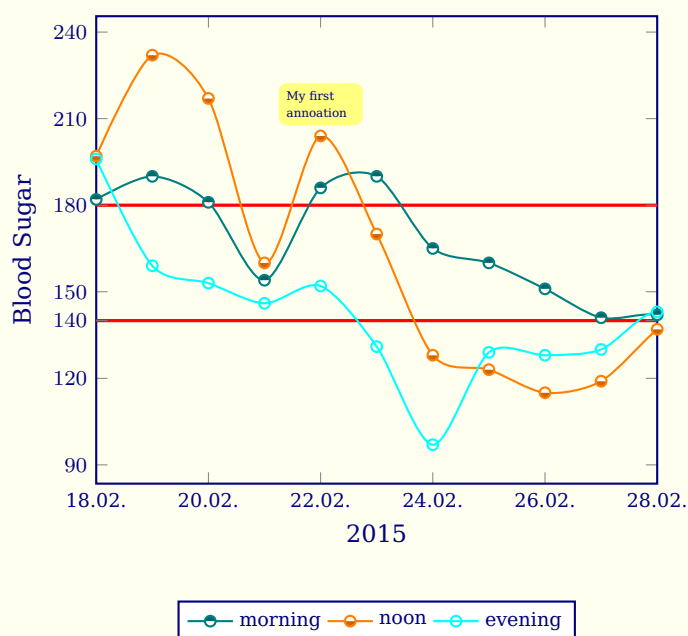


diadia.sty

v1.0

A \LaTeX package for keeping a diabetes diary



2015/05/11

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Abstract

The diadia package allows you to keep a diabetes diary. Usually, this means keeping record of certain medical values like blood sugar, blood pressure, pulse or weight. It might also include other medical, pharmaceutical or nutritional data (HbA_{1c} , insulin doses, carbohydrate units). The diadia package supports all of this plus more - simply by adding more columns to the data file!

It is able to evaluate the data file and typesets formatted tables and derived plots. Furthermore, it supports medication charts and info boxes.

1 Options

The following options can be set as package options with global scope, as well as command options with local scope:

`tabstyle` [`simple`] sets the style of the tables

`tabcolor` [`none`] sets the color of the table

`plotstyle` [`none`] sets the predefined style of your plot

`plotclosedcycle` [`false`] sets an implicit `\closedcycle` command inside a filled plot (weight). This is usually controlled by `plotstyle`.

`mcnotewidth` [`3cm`] sets the width of the note column in medication charts

`columnsep` [`18pt`] sets the distance of columns inside `diadiasidebyside` environments

`columnseprule` [`0pt`] sets the width of the separation rule between columns

`columnseprulecolor` [`\normalcolor`] sets the color of the separation rule. The `diadia` package follows the usage of options in the `multicol`[4] package. Thus, this option must be a color command like `\color{blue}` – not just a color name!

Furthermore, the design of this package is defined by several Tikz-like styles. These can be (re)defined with `\tikzstyle`, `\tcbset`, `\pgfplotsset` or `\pgfplotstableset` with the usual syntax:

`key/.style={}` or
`key/.append style={}`, e.g.:

```
1 \pgfplotsset{ddpuser/.style={thin}}
```

The `pgfplots`[2], `pgfplotstable`[3] and `tcolorbox`[5] packages offer zillions of options to influence the design!

2 Storing data

The very simple basic structure of the data file is as follows:

date	bsl1	bsl2	bsl3	id1	id2	id3	bps	bpd	weight	cu	pul
2015-02-18	182	197	196	nan	nan	10	120	80	102.3	12	64
2015-02-19	190	232	159	12	9	9	130	85	102.1	12	68
2015-02-20	181	217	153	14	9	9	130	85	103.5	12	72

```

2015-02-21 154 160 146 13 7 9 100 60 102.8 12 60
2015-02-22 186 204 152 14 9 9 120 80 102.4 12 64
2015-02-23 190 170 131 14 8 9 130 85 102.0 12 68
2015-02-24 165 128 97 14 7 6 110 75 101.7 12 64
2015-02-25 160 123 129 11 5 7 130 85 101.3 12 68
2015-02-26 151 115 128 11 nan 7 120 80 100.9 12 64
2015-02-27 141 119 130 11 4 nan 130 85 101.6 12 68
2015-02-28 142 137 143 nan nan nan 120 80 101.2 12 64

```

It is a simple text file with columns separated by <space> or <tab>. Thus, empty cells must be marked either with an empty group ({}) or the special marker nan (not a number). In plots, empty groups will simply be ignored, where as nan will result in jumps in the plots. The data file starts with a header row. Its keys will be used to plot the data or to typeset tables.

standard keys	
date	entry date
bsl1-3	three blood sugar levels (morning, noon, evening)
id1-3	three insulin doses
bps	blood pressure (systolic)
bpd	blood pressure (diastolic)
weight	weight
cu	carbohydrate units
pul	pulse
hba1c ¹	HbA _{1c}

You can easily add other columns or delete existing ones. You can even rename these columns, but you would have to redefine a lot of internal commands. You must not neither rename the date key nor change its format (YYYY-MM-DD)!

Lets say you want to add a cholesterol column, then you should at least define the following key:

```

1 \pgfplotstableset
2 {
3   columns/chol/.style=
4   {
5     string replace={nan}{{},
6     column name={Chol.}
7   }
8 }

```

This sets the column name in tables and prevents that nan values are printed. For plots you only need the chol key!

¹long term values can be stored in a separate data file

3 Presenting data

3.1 Tables

`\diadiatab[options]` The `\diadiatab` command typesets the data file specified by `{file}` in a table.
`{pgfplotstable options}``{file}` Now, you can typeset the example data in a formatted table:

```
1 \diadiatab{font=\scriptsize}{201502.dat}
```

Date	BS(1)	BS(2)	BS(3)	I(1)	I(2)	I(3)	BP(s)	BP(d)	Weight	CU	Pulse
2015/02/18	182	197	196	–	–	10	120	80	102.3	12	64
2015/02/19	190	232	159	12	9	9	130	85	102.1	12	68
2015/02/20	181	217	153	14	9	9	130	85	103.5	12	72
2015/02/21	154	160	146	13	7	9	100	60	102.8	12	60
2015/02/22	186	204	152	14	9	9	120	80	102.4	12	64
2015/02/23	190	170	131	14	8	9	130	85	102.0	12	68
2015/02/24	165	128	97	14	7	6	110	75	101.7	12	64
2015/02/25	160	123	129	11	5	7	130	85	101.3	12	68
2015/02/26	151	115	128	11	–	7	120	80	100.9	12	64
2015/02/27	141	119	130	11	4	–	130	85	101.6	12	68
2015/02/28	142	137	143	–	–	–	120	80	101.2	12	64

You can influence the design with the following options:

`tabstyle` [`simple`, `advanced`]

`tabcolor` [`none`, `color name`]

```
1 \diadiatab[tabstyle=advanced,tabcolor=gray!30]
2 {font=\scriptsize}{201502.dat}
```

Date	BS(1)	BS(2)	BS(3)	I(1)	I(2)	I(3)	BP(s)	BP(d)	Weight	CU	Pulse
2015/02/18	182	197	196	–	–	10	120	80	102.3	12	64
2015/02/19	190	232	159	12	9	9	130	85	102.1	12	68
2015/02/20	181	217	153	14	9	9	130	85	103.5	12	72
2015/02/21	154	160	146	13	7	9	100	60	102.8	12	60
2015/02/22	186	204	152	14	9	9	120	80	102.4	12	64
2015/02/23	190	170	131	14	8	9	130	85	102.0	12	68
2015/02/24	165	128	97	14	7	6	110	75	101.7	12	64
2015/02/25	160	123	129	11	5	7	130	85	101.3	12	68
2015/02/26	151	115	128	11	–	7	120	80	100.9	12	64
2015/02/27	141	119	130	11	4	–	130	85	101.6	12	68
2015/02/28	142	137	143	–	–	–	120	80	101.2	12	64

Here's a list of interesting keys for `{pgfplotstable options}`, but there are of course much more in the `pgfplotstable`[3] package documentation!

`font` accepts usual font commands

`columns` takes a list of columns, which should be typeset

`column name` sets the column heading (replacement of key)

`date type` sets the date format

```

1 \diadiatab[tabstyle=advanced,tabcolor=gray!30]
2   {
3     font=\small,
4     columns={date,bsl1,bsl2,bsl3},
5     columns/bsl1/.append style={column name={B1}},
6     columns/bsl2/.append style={column name={B2}},
7     columns/bsl3/.append style={column name={B3}},
8     columns/date/.append style={
9       date type={\day.\month.\year}}
10   }
11 {201502.dat}

```

Date	B1	B2	B3
18.02.2015	182	197	196
19.02.2015	190	232	159
20.02.2015	181	217	153
21.02.2015	154	160	146
22.02.2015	186	204	152
23.02.2015	190	170	131
24.02.2015	165	128	97
25.02.2015	160	123	129
26.02.2015	151	115	128
27.02.2015	141	119	130
28.02.2015	142	137	143

Note, that the data file was never changed!

Unfortunately, the `pgfplotstable` package does not offer a simple method to limit the output of the table to certain dates, as the `pgfplots` package offers with the `xmin` and `xmax` keys. Thus, you have to prepare piecewise data files for monthly reports or so. The following simple `grep` one-liner might be helpful:

```

1 grep -e 'date' -e '2015-04' <in.dat >201504.dat

```

Furthermore, `diadia` does not support page breaks for tables. The documentation of the `pgfplotstable`[\[3, p. 21\]](#) package describes a way out by using a `longtable`[\[1\]](#) if you need to typeset long tables!

3.2 Plots

```

\begin{diadiaplot}[<options>]
  {<pgfplots options>}
  ...
\end{diadiaplot}

```

The `diadiaplot` environment provides a typical plot structure, where you can add elements like plots, annotations or a legend. It will typeset the basic frame of the data plot.

Possible options:

`plotstyle` [`none`, `bloodsugar`, `bloodpressure`, `insulin`, `weight`, `cu`, `pulse`, `hbaonec`]

`plotclosedcycle` [`false`, `true`]

`\diadiaaddplot{<addplot options>}`
`{<key mappings>}{<file>}`
`\diadiaaddplot*{<addplot options>}`
`{<key mappings>}{<file>}`
`\legend{<label list>}`

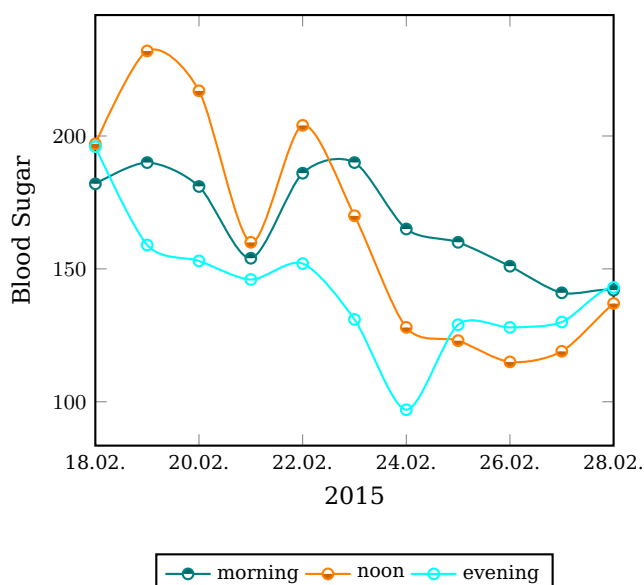
The `\diadiaaddplot` command adds a data plot to the basic frame. The keys specified in `{<addplot options>}` are added to the predefined plot options. By contrast, with the starred version `\diadiaaddplot*`, the keys specified in `{<addplot options>}` will completely replace the predefined plot options.

The `\legend` command will typeset a legend under the plot.

```

1 \begin{diadiaplot}[plotstyle=bloodsugar]
2   {
3     xlabel=2015,
4     tick label style={font=\footnotesize},
5     xmin=2015-02-18,
6     xmax=2015-02-28
7   }
8   \diadiaaddplot{}{x=date,y=bsl1}{diadia.dat}
9   \diadiaaddplot{}{x=date,y=bsl2}{diadia.dat}
10  \diadiaaddplot{}{x=date,y=bsl3}{diadia.dat}
11  \legend{morning,noon,evening}
12 \end{diadiaplot}

```



`\annotation[<Tikz options>]`
`{<x>}{<y>}{<annotation>}`

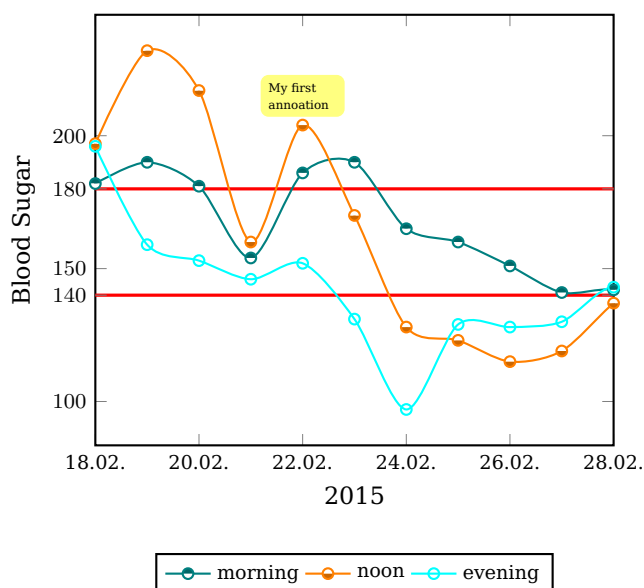
The `\annotation` command allows you to annotate your plot values. The x and y coordinates must be declared in the context of the plot. That is usually a date and a plot value.

`\setlimit[{Tikz options}]{{limit list}}` With the `\setlimit` command, you can set general and/or individual limits agreed with your doctor.

```

1 \begin{diadiaplot}[plotstyle=bloodsugar]
2   {
3     xlabel=2015,
4     tick label style={font=\footnotesize},
5     xmin=2015-02-18,
6     xmax=2015-02-28
7   }
8   \diadiaaddplot{}{x=date,y=bsl1}{diadia.dat}
9   \diadiaaddplot{}{x=date,y=bsl2}{diadia.dat}
10  \diadiaaddplot{}{x=date,y=bsl3}{diadia.dat}
11  \annotation[text width=0.9cm]{2015-02-22}{215}
12    {My first annoation}
13  \setlimit[very thick]{140,180}
14  \legend{morning,noon,evening}
15 \end{diadiaplot}

```



Here's a list of interesting keys for `{{pgfplots options}}`, but there are of course much more in the `pgfplots[2]` package documentation!

width sets the width of the data plot. Furthermore, there are the special `normalsize`, `small`, `footnotesize` and `tiny` keys

height usually, a 1:1 aspect ratio is used

xlabel sets a label under the plot, usually the year

ylabel sets a label left to the plot, usually controlled by plotstyle

xmin sets the start date of the plot

xmax sets the end date of the plot

tick label style sets the style of tick labels, usually the font size (see examples)

ytick takes a list of values for y ticks, if you are not happy with the standard choice

3.3 Medication charts

The `medicationchart` environment allows you to typeset a medication chart. That is, a list of your pharmaceuticals and how to take them. Internally, you must use the standard systax of a 6 column tabular. Or you simply use the `\mcentry` command.

Possible options:

mcnotewidth [`3cm`]

```

1 \begin{medicationchart}{}{07.04.2015}
2 \mcentry{Oxycodon-HCI STADA 10mg Retardtabletten}{0}{0}{1}{0}{}
3 \mcentry{Novaminsulfon Lichtenstein 500 mg}{1}{1}{1}{1}{}
4 \mcentry{Mono-Embolex 3000 I.E. Prophylaxe Novartis}{0}{0}{1}{0}{}
5 \mcentry{Sultamicillin-ratiopharm 375mg}{1}{0}{1}{0}{}
6 \end{medicationchart}

```

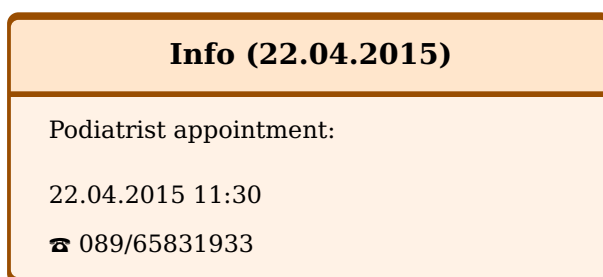
Medication Chart (issued: 07.04.2015)					
Pharmaceutical	Morning	Noon	Evening	Night	Note
Oxycodon-HCI STADA 10mg Retardtabletten	0	0	1	0	
Novaminsulfon Lichtenstein 500 mg	1	1	1	1	
Mono-Embolex 3000 I.E. Prophylaxe Novartis	0	0	1	0	
Sultamicillin- ratiopharm 375mg	1	0	1	0	

3.4 Info boxes

`\infobox{<colorbox options>}`
`{<date>}{<information>}` The `\infobox` environment allows you to typeset info boxes.

```

1 \infobox{width=8cm}{22.04.2015}{%
2 Podiatrist appointment:
3
4 \bigskip
5 22.04.2015 11:30
6
7 \medskip
8 \Telefon\ 089/65831933
9 }%
```



3.5 Misc.

`\begin{diadiasidebyside}[<options>]`
`...`
`\end{diadiasidebyside}` The `diadiasidebyside` environment is a wrapper for the `multicol[4]` environment with a two column layout and offers the following options:

`columnsep` [18pt]

`columnseprule` [0pt]

`columnseprulecolor` [\normalcolor]

For plots it sets the width to `\columnwidth`, so there's no need to adjust the width!

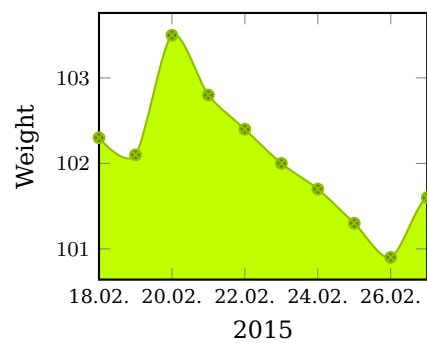
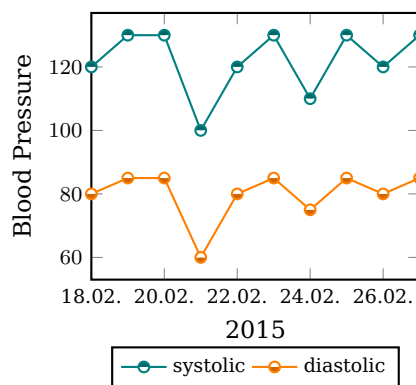
```

1 \begin{diadiasidebyside}
2 \pgfplotsset{xlabel=2015,tick label style={font=\footnotesize}}
3 \begin{diadiaplot}[plotstyle=bloodpressure]
4     {
5         xmin=2015-02-18,
6         xmax=2015-02-27
7     }
8 \diadiaaddplot{}{x=date,y=bps}{diadia.dat}
```

```

9 \diadiaaddplot{}{x=date,y=bpd}{diadia.dat}
10 \legend{systolic,diastolic}
11 \end{diadiaplot}
12
13 \begin{diadiaplot}[plotstyle=weight]
14     {
15         xmin=2015-02-18,
16         xmax=2015-02-27
17     }
18 \diadiaaddplot{lime,mark options={fill=lime!50!black},
19             mark=otimes*,draw=lime!75!black}
20             {x=date,y=weight}{diadia.dat}
21 \end{diadiaplot}
22 \end{diadiasidebyside}

```



4 Implementation

```
1 \<*package>
```

First, we provide the L^AT_EX package diadia.

```
2 \NeedsTeXFormat{LaTeX2e}%
3 \ProvidesPackage{diadia}[2015/05/11 v1.0 diadia.sty - Josef Kleber (C) 2015]%
```

We load the xkeyval package and define a helper macro to define the (global) options.

```
4 \RequirePackage{xkeyval}%
5 %
6 \newcommand*\DD@JK@define@key[4]%
7 {%
8   \expandafter\gdef\csname#1@#3\endcsname{#4}%
9   \define@key{#2.sty}{#3}[#4]%
10  {%
11   \expandafter\gdef\csname#1@#3\endcsname{##1}%
12  }%
13  \define@key{#2}{#3}%
14  {%
15   \expandafter\def\csname#1@#3\endcsname{##1}%
16  }%
17 }%
```

Now, we can define the options and execute them with defaults.

```
18 \DD@JK@define@key{DD@JK}{diadia}{tabstyle}{simple}%
19 \DD@JK@define@key{DD@JK}{diadia}{tabcolor}{none}%
20 \DD@JK@define@key{DD@JK}{diadia}{plotstyle}{none}%
21 \DD@JK@define@key{DD@JK}{diadia}{plotclosedcycle}{false}%
22 \DD@JK@define@key{DD@JK}{diadia}{mcnotewidth}{3cm}%
23 \DD@JK@define@key{DD@JK}{diadia}{columnsep}{18pt}%
24 \DD@JK@define@key{DD@JK}{diadia}{columnseprule}{0pt}%
25 \DD@JK@define@key{DD@JK}{diadia}{columnseprulecolor}{\normalcolor}%
26 %
27 \ExecuteOptionsX{tabstyle,tabcolor,plotstyle,plotclosedcycle,mcnotewidth,%
28                  columnsep,columnseprule,columnseprulecolor}%
29 \ProcessOptionsX*\relax%
```

We load the needed packages and libraries!

```
30 \RequirePackage{pgfplots}%
31 \RequirePackage{pgfplotstable}%
32 \RequirePackage{pgfcalendar}%
33 \RequirePackage{tabularx}%
34 \RequirePackage{booktabs}%
35 \RequirePackage{colortbl}%
36 \RequirePackage{ifthen}%
37 \RequirePackage{calc}%
38 \RequirePackage{translations}%
39 \RequirePackage{amsmath}%
```

```

40 \RequirePackage[many]{tcolorbox}%
41 \RequirePackage{environ}%
42 \RequirePackage{multicol}%
43 %
44 \usepgfplotslibrary{dateplot}%
45 %
46 \def\DD@JK@closedcycle{}%
47 \def\DD@JK@addplotdefault{}%

```

We load the translation files for supported languages and map the translations of the active language to macros!

```

48 \input{diadia-fallback.trsl}%
49 \input{diadia-english.trsl}%
50 \input{diadia-german.trsl}%
51 %
52 \def\DD@JK@trans@BloodSugar{\GetTranslation{dd-BloodSugar}}%
53 \def\DD@JK@trans@Insulin{\GetTranslation{dd-Insulin}}%
54 \def\DD@JK@trans@BloodPressure{\GetTranslation{dd-BloodPressure}}%
55 \def\DD@JK@trans@Weight{\GetTranslation{dd-Weight}}%
56 \def\DD@JK@trans@MedicationChart{\GetTranslation{dd-MedicationChart}}%
57 \def\DD@JK@trans@issued{\GetTranslation{dd-issued}}%
58 \def\DD@JK@trans@Pharmaceutical{\GetTranslation{dd-Pharmaceutical}}%
59 \def\DD@JK@trans@Morning{\GetTranslation{dd-Morning}}%
60 \def\DD@JK@trans@Noon{\GetTranslation{dd-Noon}}%
61 \def\DD@JK@trans@Evening{\GetTranslation{dd-Evening}}%
62 \def\DD@JK@trans@Night{\GetTranslation{dd-Night}}%
63 \def\DD@JK@trans@Note{\GetTranslation{dd-Note}}%
64 \def\DD@JK@trans@Info{\GetTranslation{dd-Info}}%
65 \def\DD@JK@trans@Date{\GetTranslation{dd-Date}}%
66 \def\DD@JK@trans@BSi{\GetTranslation{dd-BSi}}%
67 \def\DD@JK@trans@BSii{\GetTranslation{dd-BSii}}%
68 \def\DD@JK@trans@BSiii{\GetTranslation{dd-BSiii}}%
69 \def\DD@JK@trans@IDi{\GetTranslation{dd-IDi}}%
70 \def\DD@JK@trans@IDii{\GetTranslation{dd-IDii}}%
71 \def\DD@JK@trans@IDiii{\GetTranslation{dd-IDiii}}%
72 \def\DD@JK@trans@BPs{\GetTranslation{dd-BPs}}%
73 \def\DD@JK@trans@BPd{\GetTranslation{dd-BPd}}%
74 \def\DD@JK@trans@Weight{\GetTranslation{dd-Weight}}%
75 \def\DD@JK@trans@CU{\GetTranslation{dd-CU}}%
76 \def\DD@JK@trans@Pulse{\GetTranslation{dd-Pulse}}%
77 \def\DD@JK@trans@Hbaonec{\GetTranslation{dd-Hbaonec}}%

```

We define two new tabular types Z (ragged right X type) and Y (ragged right p with mcnotewidth width).

```

78 \newcolumntype{Z}{>\raggedright\let\newline\\arraybackslash}X}%
79 \newcolumntype{Y}{>\raggedright\let\newline\\arraybackslash}p{\DD@JK@mcnotewidth}}%

```

We set pgfplot compat mode to 1.12 and the date ZERO key to 2015-01-01. Sometimes, values are plotted at the wrong date. Then you should adjust the date ZERO key to the start date of your data to avoid rounding errors in date calculation.

```

80 \pgfplotsset{%
81   compat=1.12,%
82   date ZERO=2015-01-01%
83 }%

```

We define some pgfplots styles with priority order: ddpdefault → ddpuser → {ddpbloodsugar|insulin|bloodpressure|weight|cu|pulse|hbaonec}

Thus, you can redefine ddpuser to adjust the general design set by ddpdefault. Furthermore, we define a ddpweightplot to use our standard design also in weight plots, as area style plots use their own color cycle list.

```

84 \pgfplotsset{%
85   ddpuser/.style=%
86   {},%
87   ddpdefault/.style=%
88   {%
89     thick,%
90     date coordinates in=x,%
91     xticklabel={\day.\month.},%
92     legend style={at={(0.5,-0.25)},%
93       font=\footnotesize,%
94       anchor=north,%
95       legend columns=-1},%
96     ddpuser%
97   },%
98   ddpweight/.style=%
99   {%
100     smooth,%
101     area style,%
102     ylabel=\DD@JK@trans@Weight%
103   },%
104   ddpweightplot/.style=%
105   {%
106     teal,%
107     fill=teal!50,%
108     mark=halfcircle*,%
109     every mark/.append style={solid,fill=!.80!black}%
110   },%
111   ddpbloodpressure/.style=%
112   {%
113     cycle list name=diadiacyclist,%
114     unbounded coords=jump,%
115     ylabel=\DD@JK@trans@BloodPressure%
116   },%
117   ddpinsulin/.style=%
118   {%
119     cycle list name=diadiacyclist,%
120     unbounded coords=jump,%
121     ylabel=\DD@JK@trans@Insulin%
122   },%
123   ddpbloodsugar/.style=%

```

```

124  {%
125    smooth,%
126    cycle list name=diadiacyclist,%
127    unbounded coords=jump,%
128    ylabel=\DD@JK@trans@BloodSugar%
129  },%
130  ddppulse/.style=%
131  {%
132    smooth,%
133    cycle list name=diadiacyclist,%
134    unbounded coords=jump,%
135    ylabel=\DD@JK@trans@Pulse%
136  },%
137  ddpcu/.style=%
138  {%
139    ybar,%
140    tick align=inside,%
141    cycle list name=diadiacyclist,%
142    unbounded coords=jump,%
143    ylabel=\DD@JK@trans@CU%
144  },%
145  ddphbaonec/.style=%
146  {%
147    ybar,%
148    tick align=inside,%
149    cycle list name=diadiacyclist,%
150    unbounded coords=jump,%
151    ylabel=\DD@JK@trans@Hbaonec%
152  }%
153 }%

```

We set some sensible defaults for \diadiatab

- replace nan with empty string
- replace empty cells with –
- define date column as date type
- define weight and hba1c columns as fixed, fixed zerofill, precision=1

```

154 \pgfplotstableset%
155 {%
156   empty cells with={--},%
157   columns/date/.style={date type},%
158   columns/bsl1/.style={string replace={nan}{}},%
159   columns/bsl2/.style={string replace={nan}{}},%
160   columns/bsl3/.style={string replace={nan}{}},%
161   columns/id1/.style={string replace={nan}{}},%
162   columns/id2/.style={string replace={nan}{}},%
163   columns/id3/.style={string replace={nan}{}},%
164   columns/bps/.style={string replace={nan}{}},%
165   columns/bpd/.style={string replace={nan}{}},%

```



```

166 columns/weight/.style={fixed,fixed zerofill,precision=1,string replace={nan}{}},%
167 columns/cu/.style={string replace={nan}{}},%
168 columns/pul/.style={string replace={nan}{}},%
169 columns/hbalc/.style={fixed,fixed zerofill,precision=1,string replace={nan}{}}%
170 }%

```

Now, we append the language dependent column headers to the column style!

```

171 \pgfplotstableset%
172 {%
173 columns/date/.append style={column name={\DD@JK@trans@Date}},%
174 columns/bsl1/.append style={column name={\DD@JK@trans@BSi}},%
175 columns/bsl2/.append style={column name={\DD@JK@trans@BSii}},%
176 columns/bsl3/.append style={column name={\DD@JK@trans@BSiii}},%
177 columns/id1/.append style={column name={\DD@JK@trans@IDi}},%
178 columns/id2/.append style={column name={\DD@JK@trans@IDii}},%
179 columns/id3/.append style={column name={\DD@JK@trans@IDiii}},%
180 columns/bps/.append style={column name={\DD@JK@trans@BPs}},%
181 columns/bpd/.append style={column name={\DD@JK@trans@BPd}},%
182 columns/weight/.append style={column name={\DD@JK@trans@Weight}},%
183 columns/cu/.append style={column name={\DD@JK@trans@CU}},%
184 columns/pul/.append style={column name={\DD@JK@trans@Pulse}},%
185 columns/hbalc/.append style={column name={\DD@JK@trans@Hbaonec}}%
186 }%

```

We define the diadiacyclist color cycle list used in plots. You may adjust it to your needs.

```

187 \pgfplotscreateplotcyclelist{diadiacyclist}%
188 {%
189 {teal,mark=halfcircle*,every mark/.append style={solid,fill=!.80!black}},%
190 {orange,mark=halfcircle*,every mark/.append style={solid,fill=!.80!black,rotate=180}},%
191 {cyan,mark=o,every mark/.append style={solid,fill=!.80!black}},%
192 {yellow,mark=star,every mark/.append style={solid,fill=!.80!black}}%
193 }%

```

We define the Tikz styles for annotations and limits.

```

194 \tikzset%
195 {%
196 ddpannotation/.style=%
197 {%
198 fill=yellow!50!white,%
199 rectangle,%
200 rounded corners=3pt,%
201 font=\tiny%
202 },%
203 setlimit/.style=%
204 {%
205 red,%
206 thick%
207 },%
208 ddaddplotfill/.style=%

```

```

209  {%
210    fill=teal!50,%
211  },%
212 }%

```

Finally, we define the medicationchart and infobox tcolorbox styles based on ddboxdefault!

```

213 \tcbsset%
214 {%
215   ddboxdefault/.style=%
216   {%
217     enhanced,%
218     fonttitle=\bfseries\large,%
219     coltitle=black,%
220     center title,%
221     titlerule=.75mm,%
222     toprule=1mm,%
223     bottomrule=1mm,%
224     toptitle=2mm,%
225     bottomtitle=2mm%
226   },%
227   medicationchart/.style=%
228   {%
229     ddboxdefault,%
230     fontupper=\footnotesize,%
231     colback=yellow!10!white,%
232     colframe=yellow!60!black,%
233     colbacktitle=yellow!20!white,%
234     left=0mm,%
235     right=0mm,%
236     top=0mm,%
237     bottom=0mm,%
238     boxsep=0mm,%
239   },%
240   infobox/.style=%
241   {%
242     ddboxdefault,%
243     width=\linewidth-10.888pt,%
244     colback=orange!10!white,%
245     colframe=orange!60!black,%
246     colbacktitle=orange!20!white%
247   },%
248 }%

```

`\annotation` With this command you can annotate your plots. You must use x/y coordinates in the context of your plot. Thus the x coordinate is usually a date.

`\annotation[<Tikz options>]{<x>}{<y>}{<annotation>}`

```

249 \newcommand*\annotation[4][ ]%
250 {%

```

```

251 \node[ddpannotation,#1] at (#2,#3) {#4};%
252 }%

```

`\diadiatab` The `\diadiatab` command allows you to typeset your data in a formatted table.

`\diadiatab[<options>]{<pgfplotstable options>}{<file>}`

```

253 \newcommand*\diadiatab[3][]%
254 {%
255   \begingroup%
256

```

Initially, we evaluate the options and set `pgfplotstable` options accordingly.

```

257   \setkeys{diadia}{#1}%
258   \ifthenelse{\equal{\DD@JK@tabstyle}{simple}}{%
259     {}%
260     {%
261       \ifthenelse{\equal{\DD@JK@tabstyle}{advanced}}{%
262         {%
263           \pgfplotstableset%
264             {%
265               every head row/.style={before row=\toprule,after row=\midrule},%
266               every last row/.style={after row=\bottomrule}%
267             }%
268           }%
269         {}%
270       }%
271       \ifthenelse{\equal{\DD@JK@tabcolor}{none}}{%
272         {}%
273         {%
274           \pgfplotstableset%
275             {%
276               every even row/.style={before row={\rowcolor{\DD@JK@tabcolor}}}%
277             }%
278           }%

```

Finally, we typeset the table.

```

279   \pgfplotstabletypeset[#2]{#3}%
280   \endgroup%
281 }%

```

`\diadiaaddplot` The `\diadiaaddplot` command adds a data plot. First of all, it checks for a * and calls `\@@diadiaaddplot` or `\@@diadiaaddplot!`

`\diadiaaddplot{<pgfplots options>}{<key mapping>}{<file>}`

```

282 \newcommand*\diadiaaddplot{\ifstar\@@diadiaaddplot\diadiaaddplot}%

283 \newcommand*\diadiaaddplot[4][]%
284 {%
285   \addplot+[\DD@JK@addplotdefault,#2] table[#3] {#4}\DD@JK@closedcycle;%

```

```

286 }%
287 %
288 \newcommand*\@@diadiaaddplot[4][[]%
289 {%
290   \addplot[#2] table[#3] {#4}\DD@JK@closedcycle;%
291 }%

```

diadiaplot The diadiaplot environment is a wrapper for the tikzpicture and axis environments!

```

292 \newenvironment{diadiaplot}[2][[]%
293 {%

```

We use the baseline option to have all plots on the same baseline. Important for sidebyside plots with different legends!

```

294   \begin{tikzpicture}[baseline]%

```

We evaluate the options and set the \DD@JK@closedcycle and \DD@JK@ddpmode macros accordingly.

```

295   \setkeys{diadia}{#1}%
296   \ifthenelse{\equal{\DD@JK@plotclosedcycle}{true}}%
297   {\def\DD@JK@closedcycle{\closedcycle}}%
298   {\def\DD@JK@closedcycle{}}%
299   \def\DD@JK@ddpmode{}%
300   \ifthenelse{\equal{\DD@JK@plotstyle}{none}}%
301   {%
302     \def\DD@JK@ddpmode{}%
303   }%
304   {%
305     \ifthenelse{\equal{\DD@JK@plotstyle}{weight}}%
306     {%
307       \def\DD@JK@ddpmode{ddpweight}%
308       \def\DD@JK@closedcycle{\closedcycle}%
309     }%
310     {%
311       \ifthenelse{\equal{\DD@JK@plotstyle}{bloodpressure}}%
312       {%
313         \def\DD@JK@ddpmode{ddpbloodpressure}%
314       }%
315       {%
316         \ifthenelse{\equal{\DD@JK@plotstyle}{insulin}}%
317         {%
318           \def\DD@JK@ddpmode{ddpinsulin}%
319         }%
320         {%
321           \ifthenelse{\equal{\DD@JK@plotstyle}{bloodsugar}}%
322           {%
323             \def\DD@JK@ddpmode{ddpbloodsugar}%
324           }%
325           {%

```

```

326         \ifthenelse{\equal{\DD@JK@plotstyle}{pulse}}{%
327         {%
328             \def\DD@JK@ddpmode{ddppulse}%
329         }%
330         {%
331             \ifthenelse{\equal{\DD@JK@plotstyle}{cu}}{%
332             {%
333                 \def\DD@JK@ddpmode{ddpcu}%
334                 \def\DD@JK@addplotdefault{ddaddplotfill}%
335             }%
336             {%
337                 \ifthenelse{\equal{\DD@JK@plotstyle}{hbaonec}}{%
338                 {%
339                     \def\DD@JK@ddpmode{ddphbaonec}%
340                     \def\DD@JK@addplotdefault{ddaddplotfill}%
341                 }%
342                 {}%
343             }%
344             }%
345         }%
346     }%
347 }%
348 }%
349 }%
```

We start the axis environment with the right plot style.

```

350     \begin{axis}[ddpdefault,%
351                 \DD@JK@ddpmode,%
352                 #2%
353                 ]%
354 }%
355 {%
356     \end{axis}%
357 \end{tikzpicture}%
358 }%
```

`\mcentry` The `\mcentry` command provides a simple interface for a six column tabular entry needed inside a `medicationchart` environment.

```
\mcentry{\langle pharmaceutical \rangle}{\langle morning \rangle}{\langle noon \rangle}{\langle evening \rangle}{\langle night \rangle}{\langle note \rangle}
```

```

359 \newcommand*{\mcentry}[6]%
360 {%
361     #1 & #2 & #3 & #4 & #5 & #6 \\%
362 }%
```

`medicationchart` The `medicationchart` environment allows you to typeset a medication chart. It uses the `environ` package to collect the environment body in the `\Body` macro. It is later used in a `medicationchart` style `tcolorbox` box.

```
363 \NewEnviron{medicationchart}[3][{}%
```

```

364 {%
365   \begingroup%
366   \setkeys{diadia}{#1}%
367   \tcbox[medicationchart,%
368     title={\DD@JK@trans@MedicationChart\space (\DD@JK@trans@issued: #3)},#2]%
369   {%
370     \renewcommand{\arraystretch}{1.2}%
371     \begin{tabularx}{\textwidth-13.64pt}{Z||r|r|r|r|Y}%
372       \DD@JK@trans@Pharmaceutical & \DD@JK@trans@Morning & \DD@JK@trans@Noon &
373       \DD@JK@trans@Evening & \DD@JK@trans@Night & \DD@JK@trans@Note\\\hline\hline%
374       \BODY%
375     \end{tabularx}%
376   }%
377   \endgroup%
378 }%

```

`\infobox` The `\infobox` allows you to typeset arbitrary material into a `infobox` style `tcolorbox` box.

`\infobox{<tcbox options>}{<date>}{<info>}`

```

379 \newcommand{\infobox}[3]%
380 {%
381   \begin{tcolorbox}[infobox,title={\DD@JK@trans@Info\space (#2)},#1]%
382     #3%
383   \end{tcolorbox}%
384 }%

```

`diadiasidebyside` The `diadiasidebyside` environment allows you to typeset (narrow) tables and plots sidebyside. It supports the `columnsep`, `columnseprule` and `columnseprulecolor` options of the `multicol` package.

```

385 \newenvironment{diadiasidebyside}[1][]%
386 {%
387   \setkeys{diadia}{#1}%
388   \setlength{\columnsep}{\DD@JK@columnsep}%
389   \setlength{\columnseprule}{\DD@JK@columnseprule}%
390   \def\columnseprulecolor{\DD@JK@columnseprulecolor}%
391   \pgfplotsset{width=\columnwidth}%
392   \begin{multicols}{2}%
393 }%
394 {%
395   \end{multicols}%
396 }%

```

`\setlimit` The `\setlimit` command allows you to add limits to your plot!

`\setlimit[<Tikz options>]{<limit list>}`

```

397 \newcommand*{\setlimit}[2][]%
398 {%
399   \pgfplotsset{%

```

```
400         extra y ticks={#2},%  
401         extra tick style={grid=major, major grid style={setlimit, #1}}%  
402     }%  
403 }%  
  
404 \end{package}
```

5 References

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