

# Package ‘PNSIBGE’

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**Type** Package

**Title** Downloading, Reading and Analyzing PNS Microdata

**Version** 0.2.0

**Description** Provides tools for downloading, reading and analyzing the PNS, a household survey from Brazilian Institute of Geography and Statistics - IBGE. The data must be downloaded from the official website <<https://www.ibge.gov.br/>>. Further analysis must be made using package 'survey'.

**Depends** R (>= 3.2.0)

**Imports** dplyr, httr, magrittr, projmgr, RCurl, readr, readxl, survey, tibble, timeDate, utils

**Suggests** convey, SIPDIBGE, srvyr

**License** GPL-3

**Encoding** UTF-8

**RoxygenNote** 7.1.2

**NeedsCompilation** no

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**BugReports** <https://github.com/Gabriel-Assuncao/PNSIBGE/issues>

**Repository** CRAN

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## R topics documented:

get_pns . . . . .	2
pns_deflator . . . . .	3
pns_design . . . . .	4
pns_example . . . . .	6
pns_labeller . . . . .	7
read_pns . . . . .	8

**Index****10**


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get_pns	<i>Download, label, deflate and create survey design object for PNS microdata</i>
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**Description**

Core function of package. With this function only, the user can download a PNS microdata from a year and get a sample design object ready to use with survey package functions.

**Usage**

```
get_pns(
  year,
  selected = FALSE,
  anthropometry = FALSE,
  vars = NULL,
  labels = TRUE,
  deflator = TRUE,
  design = TRUE,
  reload = TRUE,
  savedir = tempdir()
)
```

**Arguments**

year	The year of the data to be downloaded. Must be a number equal to 2013 or 2019. Vector not accepted.
selected	Logical value. If TRUE, the specific questionnaire for selected resident will be used. If FALSE, the basic questionnaire for household and residents will be used.
anthropometry	Logical value. If TRUE, the specific questionnaire for the anthropometry module of the selected resident will be used. If FALSE, the questionnaire defined by the selected argument of this function will be used. This argument will be used only if year is equal to 2019.
vars	Vector of variable names to be kept for analysis. Default is to keep all variables.
labels	Logical value. If TRUE, categorical variables will presented as factors with labels corresponding to the survey's dictionary.
deflator	Logical value. If TRUE, deflator variables will be available for use in the microdata.
design	Logical value. If TRUE, will return an object of class <code>survey.design</code> or <code>svyrep.design</code> . It is strongly recommended to keep this parameter as TRUE for further analysis. If FALSE, only the microdata will be returned.
reload	Logical value. If TRUE, will re-download the files even if they already exist in the save directory. If FALSE, will be checked if the files already exist in the save directory and the download will not be performed repeatedly.
savedir	Directory to save the downloaded data. Default is to use a temporary directory.

**Value**

An object of class `survey.design` or `svyrep.design` with the data from PNS and its sample design, or a tibble with selected variables of the microdata, including the necessary survey design ones.

**Note**

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

**See Also**

[read\\_pns](#) for reading PNS microdata.  
[pns\\_labeller](#) for labeling categorical variables from PNS microdata.  
[pns\\_deflator](#) for adding deflator variables to PNS microdata.  
[pns\\_design](#) for creating PNS survey design object.  
[pns\\_example](#) for getting the path of the PNS toy example files.

**Examples**

```
pns.svy <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007", "J009"),
  labels=TRUE, deflator=TRUE, design=TRUE, reload=TRUE, savedir=tempdir())
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)
pns.svy2 <- get_pns(year=2019, selected=TRUE, anthropometry=FALSE, vars=c("N001", "N00101"),
  labels=TRUE, deflator=TRUE, design=TRUE, reload=TRUE, savedir=tempdir())
# Calculating proportion of people's self-rated health
if (!is.null(pns.svy2)) survey::svymean(x=~N001, design=pns.svy2, na.rm=TRUE)
pns.svy3 <- get_pns(year=2019, selected=FALSE, anthropometry=TRUE, vars=c("W00101", "W00201"),
  labels=TRUE, deflator=TRUE, design=TRUE, reload=TRUE, savedir=tempdir())
# Calculating the average weight of people
if (!is.null(pns.svy3)) survey::svymean(x=~W00101, design=pns.svy3, na.rm=TRUE)
```

---

pns\_deflator

*Add deflator variables to PNS microdata*

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**Description**

This function adds deflator variables to PNS microdata. For deflation of income variables, the documentation provided through the following address must be used: [https://ftp.ibge.gov.br/PNS/Documentacao\\_Geral/PNSIBGE\\_Deflator.pdf](https://ftp.ibge.gov.br/PNS/Documentacao_Geral/PNSIBGE_Deflator.pdf).

**Usage**

```
pns_deflator(data_pns, deflator.file)
```

**Arguments**

`data_pns` A tibble of PNS microdata read with `read_pns` function.

`deflator.file` The deflator file for selected survey available on official website: (select the deflator zip file) - [https://ftp.ibge.gov.br/PNS/Documentacao\\_Geral/](https://ftp.ibge.gov.br/PNS/Documentacao_Geral/).

**Value**

A tibble with the data provided from PNS survey and the deflator variables added for use.

**Note**

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

**See Also**

[get\\_pns](#) for downloading, labeling, deflating and creating survey design object for PNS microdata.  
[read\\_pns](#) for reading PNS microdata.  
[pns\\_labeller](#) for labeling categorical variables from PNS microdata.  
[pns\\_design](#) for creating PNS survey design object.  
[pns\\_example](#) for getting the path of the PNS toy example files.

**Examples**

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007","J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007","J009"),
                  labels=TRUE, deflator=FALSE, design=FALSE, reload=TRUE, savedir=tempdir())
deflator.path2 <- pns_example(path="deflatorexample.xls")
pns.df2 <- pns_deflator(data_pns=pns.df2, deflator.file=deflator.path2)
```

---

pns\_design

*Create PNS survey object with its sample design*

---

**Description**

This function creates PNS survey object with its sample design for analysis using survey package functions.

**Usage**

```
pns_design(data_pns)
```

**Arguments**

`data_pns` A tibble of PNS microdata read with `read_pns` function.

**Value**

An object of class `survey.design` or `svyrep.design` with the data from PNS and its sample design.

**Note**

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

**See Also**

[get\\_pns](#) for downloading, labeling, deflating and creating survey design object for PNS microdata.  
[read\\_pns](#) for reading PNS microdata.  
[pns\\_labeller](#) for labeling categorical variables from PNS microdata.  
[pns\\_deflator](#) for adding deflator variables to PNS microdata.  
[pns\\_example](#) for getting the path of the PNS toy example files.

**Examples**

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
deflator.path <- pns_example(path="deflatorexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007", "J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)
pns.df <- pns_deflator(data_pns=pns.df, deflator.file=deflator.path)

pns.svy <- pns_design(data_pns=pns.df)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy)) survey::svymean(x=~J007, design=pns.svy, na.rm=TRUE)

# Downloading data
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007", "J009"),
  labels=TRUE, deflator=TRUE, design=FALSE, reload=TRUE, savedir=tempdir())
pns.svy2 <- pns_design(data_pns=pns.df2)
# Calculating proportion of people diagnosed with chronic diseases
if (!is.null(pns.svy2)) survey::svymean(x=~J007, design=pns.svy2, na.rm=TRUE)
```

---

pns\_example

*Get the path of the PNS toy example files*

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### Description

This function provides the path of the microdata from year 2019 of the PNS toy example files, loaded with this package.

### Usage

```
pns_example(path = NULL)
```

### Arguments

path                      Name of file. If NULL, the PNS toy example files names will be listed.

### Value

A vector with names of all the available PNS toy example files or the path for specific requested PNS toy example file.

### Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

### See Also

[get\\_pns](#) for downloading, labeling, deflating and creating survey design object for PNS microdata.  
[read\\_pns](#) for reading PNS microdata.  
[pns\\_labeller](#) for labeling categorical variables from PNS microdata.  
[pns\\_deflator](#) for adding deflator variables to PNS microdata.  
[pns\\_design](#) for creating PNS survey design object.

### Examples

```
pns_example()  
pns_example(path="exampledata.txt")  
pns_example(path="input_example.txt")  
pns_example(path="dictionaryexample.xls")  
pns_example(path="deflatorexample.xls")
```

---

pns_labeller	<i>Label categorical variables from PNS microdata</i>
--------------	---

---

## Description

This function labels categorical variables from PNS microdata.

## Usage

```
pns_labeller(data_pns, dictionary.file)
```

## Arguments

`data_pns` A tibble of PNS microdata read with `read_pns` function.

`dictionary.file`

The dictionary file for selected survey available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - <https://ftp.ibge.gov.br/PNS/>.

## Value

A tibble with the data provided from PNS survey and its categorical variables as factors with related labels.

## Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

## See Also

[get\\_pns](#) for downloading, labeling, deflating and creating survey design object for PNS microdata.

[read\\_pns](#) for reading PNS microdata.

[pns\\_deflator](#) for adding deflator variables to PNS microdata.

[pns\\_design](#) for creating PNS survey design object.

[pns\\_example](#) for getting the path of the PNS toy example files.

## Examples

```
# Using data read from disk
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
dictionary.path <- pns_example(path="dictionaryexample.xls")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007", "J009"))
pns.df <- pns_labeller(data_pns=pns.df, dictionary.file=dictionary.path)

# Downloading data
```

```
pns.df2 <- get_pns(year=2019, selected=FALSE, anthropometry=FALSE, vars=c("J007", "J009"),
  labels=FALSE, deflator=FALSE, design=FALSE, reload=TRUE, savedir=tempdir())
dictionary.path2 <- pns_example(path="dictionaryexample.xls")
pns.df2 <- pns_labeller(data_pns=pns.df2, dictionary.file=dictionary.path2)
```

---

read\_pns

*Read PNS microdata*


---

### Description

This function reads PNS microdata.

### Usage

```
read_pns(microdata, input_txt, vars = NULL)
```

### Arguments

microdata	A text file containing microdata from PNS survey, available on official website: (select a microdata file, according to the appropriated year, microdata folder and then, inside, data) - <a href="https://ftp.ibge.gov.br/PNS/">https://ftp.ibge.gov.br/PNS/</a> .
input_txt	A text file, related to the microdata, containing the input script for SAS, available on official website: (select the dictionary and input zip file, according to the appropriated year, microdata folder and then, inside, documentation) - <a href="https://ftp.ibge.gov.br/PNS/">https://ftp.ibge.gov.br/PNS/</a> .
vars	Vector of variable names to be kept for analysis. Default is to keep all variables.

### Value

A tibble with selected variables of the microdata, including the necessary survey design ones.

### Note

For more information, visit the survey official website <<https://www.ibge.gov.br/estatisticas/sociais/saude/9160-pesquisa-nacional-de-saude.html?=&t=o-que-e>> and consult the other functions of this package, described below.

### See Also

[get\\_pns](#) for downloading, labeling, deflating and creating survey design object for PNS microdata.  
[pns\\_labeller](#) for labeling categorical variables from PNS microdata.  
[pns\\_deflator](#) for adding deflator variables to PNS microdata.  
[pns\\_design](#) for creating PNS survey design object.  
[pns\\_example](#) for getting the path of the PNS toy example files.



**Examples**

```
input_path <- pns_example(path="input_example.txt")
data_path <- pns_example(path="exampledata.txt")
pns.df <- read_pns(microdata=data_path, input_txt=input_path, vars=c("J007", "J009"))
```

# Index

`get_pns`, 2, 4–8

`pns_deflator`, 3, 3, 5–8

`pns_design`, 3, 4, 4, 6–8

`pns_example`, 3–5, 6, 7, 8

`pns_labeller`, 3–6, 7, 8

`read_pns`, 3–7, 8