

Package ‘CrossVA’

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Type Package

Title Verbal Autopsy Data Transform for Use with Various Coding Algorithms

Version 0.9.5

Description Enables transformation of Verbal Autopsy data collected with the WHO 2016 questionnaire (versions 1.4.1 & 1.5.1) for automated coding of Cause of Death using different computer algorithms. Currently supports user-supplied mappings, and provides unvalidated, experimental-stage mapping definitions to transform to InterVA4, InterVA5, Tariff 2, and InSilicoVA. This package is made available by WHO, in collaboration with the Swiss Tropical and Public Health Institute and the Bloomberg Data for Health Initiative.

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Depends R (>= 3.2.0)

LazyData TRUE

RoxygenNote 6.1.1

Imports lubridate, stringi

Encoding UTF-8

Suggests knitr, rmarkdown, testthat, openVA

VignetteBuilder knitr

NeedsCompilation no

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map_records	<i>Map VA records to coding algorithm.</i>
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Description

map_records transform data collected with the WHO VA instrument to serve different algorithms for coding cause of death.

Usage

```
map_records(records, mapping, csv_outfile = "")
```

Arguments

records	A dataframe, obtained from reading an ODKBriefcase export of records collected with the WHO questionnaire.
mapping	Name of an algorithm to map to (one of "interva4", "insicova", or "tariff2"), or name of a mapping file.
csv_outfile	Path to a file to write transformed data to. Defaults to empty string, in which case no file is written.

Value

A dataframe, with the VA records mapped to the variables required by a coding algorithm, as specified in the mapping file.

Examples

```
## Not run:
record_f_name <- system.file('sample', 'who_va_output.csv', package = 'CrossVA')
records <- read.csv(record_f_name)
output_data <- map_records(records, 'insicova')
output_f_name <- "output_for_insicova.csv"
write.table(
  output_data,
  output_f_name,
```

```
row.names = FALSE,
na = "",
qmethod = "escape",
sep = ", "
)
mapping_file <- system.file('mapping', 'interva4_mapping.txt', package = 'CrossVA')
output_data <- map_records(records, mapping_file)
output_f_name <- "output_for_interva4.csv"
write.table(
output_data,
output_f_name,
row.names = FALSE,
na = "",
qmethod = "escape",
sep = ", "
)

## End(Not run)
```

map_records_insilicova

Map VA records to InsilicoVA.

Description

map_records transform data collected with the WHO VA instrument for coding with the InsilicoVA algorithm.

Usage

```
map_records_insilicova(records, csv_outfile = "")
```

Arguments

records	A dataframe, obtained from reading an ODKBriefcase export of records collected with the WHO questionnaire.
csv_outfile	Path to a file to write transformed data to. Defaults to empty string, in which case no file is written.

Value

A dataframe, with the VA records mapped to the variables required by InsilicoVA.

References

Tyler H. McCormick, Zehang R. Li, Clara Calvert, Amelia C. Crampin, Kathleen Kahn and Samuel J. Clark (2014). Probabilistic cause-of-death assignment using verbal autopsies, Journal of the American Statistical Association, to appear

Examples

```
## Not run:
records <- read.csv('who_va_output.csv')
output_data <- map_records_tariff2(records)

## End(Not run)
```

map_records_interva4 *Map VA records to InterVA4.*

Description

map_records transform data collected with the WHO VA instrument for coding with the InterVA4 algorithm.

Usage

```
map_records_interva4(records, csv_outfile = "")
```

Arguments

records	A dataframe, obtained from reading an ODKBriefcase export of records collected with the WHO questionnaire.
csv_outfile	Path to a file to write transformed data to. Defaults to empty string, in which case no file is written.

Value

A dataframe, with the VA records mapped to the variables required by InterVA4.

References

<http://www.interva.net/>

Examples

```
## Not run:
record_f_name <- system.file('sample', 'who_va_output.csv', package = 'CrossVA')
records <- read.csv(record_f_name)
output_data <- map_records_interva4(records)

## End(Not run)
```

map_records_tariff2 *Map VA records to Tariff 2.*

Description

map_records transform data collected with the WHO VA instrument for coding with the Tariff 2 algorithm.

Usage

```
map_records_tariff2(records, csv_outfile = "")
```

Arguments

records	A dataframe, obtained from reading an ODKBriefcase export of records collected with the WHO questionnaire.
csv_outfile	Path to a file to write transformed data to. Defaults to empty string, in which case no file is written.

Value

A dataframe, with the VA records mapped to the variables required by Tariff 2.

References

James, S. L., Flaxman, A. D., Murray, C. J., & Population Health Metrics Research Consortium. (2011). *Performance of the Tariff Method: validation of a simple additive algorithm for analysis of verbal autopsies*. *Population Health Metrics*, 9(1), 1-16.

Examples

```
## Not run:  
records <- read.csv('who_va_output.csv')  
output_data <- map_records_tariff2(records)  
  
## End(Not run)
```

odk2openVA	<i>Map VA records to InterVA5 & InSilico (with option data.type = "WHO2016").</i>
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Description

odk2openVA transforms data collected with the 2016 WHO VA instrument into a format that can be used with the InterVA5 and InSilicoVA algorithms for coding cause of death. It is a wrapper for functions that handle specific versions of the 2016 WHO VA instrument – namely, 1.4.1 and 1.5.1. If the input (odk) includes a column containing the string: "age_neonate_hours", then the function assumes the questionnaire version is 1.4.1 (and assumes version 1.5.1 if the string is not located).

Usage

```
odk2openVA(odk)
```

Arguments

odk	A dataframe, obtained from reading an ODK Briefcase export of records collected with the WHO questionnaire.
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Examples

```
## Example with 2016 WHO VA instrument version 1.5.1
record_f_name151 <- system.file("sample", "who151_odk_export.csv", package = "CrossVA")
records151 <- read.csv(record_f_name151, stringsAsFactors = FALSE)
output151 <- odk2openVA(records151)

## Example with 2016 WHO VA instrument version 1.4.1
record_f_name141 <- system.file("sample", "who141_odk_export.csv", package = "CrossVA")
records141 <- read.csv(record_f_name141, stringsAsFactors = FALSE)
output141 <- odk2openVA(records141)
```

odk2openVA_v141	<i>Map VA records (version 1.4.1) to InterVA5 and InSilico (with option data.type = "WHO2016").</i>
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Description

odk2openVA transforms data collected with the 2016 WHO VA instrument (version 1.4.1) to serve as the input to the InterVA5 and InSilicoVA algorithms for coding cause of death.

Usage

```
odk2openVA_v141(odk)
```

Arguments

odk A dataframe, obtained from reading an ODK Briefcase export of records collected with the WHO questionnaire.

Examples

```
## Not run:
record_f_name <- system.file("sample", "who141_odk_export.csv", package = "CrossVA")
records <- read.csv(record_f_name, stringsAsFactors = FALSE)
output <- odk2openVA_v141(records)

## End(Not run)
```

odk2openVA_v151 *Map VA records (version 1.5.1) to InterVA5 & InSilico (with option data.type = "WHO2016").*

Description

odk2openVA_v151 transforms data collected with the 2016 WHO VA instrument (version 1.5.1) to serve as the input for the InterVA5 and InSilicoVA algorithms for coding cause of death.

Usage

```
odk2openVA_v151(odk)
```

Arguments

odk A dataframe, obtained from reading an ODK Briefcase export of records collected with the WHO questionnaire.

Examples

```
## Not run:
record_f_name <- system.file("sample", "who151_odk_export.csv", package = "CrossVA")
records <- read.csv(record_f_name, stringsAsFactors = FALSE)
output <- odk2openVA_v151(records)

## End(Not run)
```

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