Package ‘QRISK3’

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Title 10-Year Cardiovascular Disease Risk Calculator (QRISK3 2017)

Version 0.6.0

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Description This function aims to calculate risk of developing cardiovascular disease of individual patients in next 10 years. This unofficial package was based on published open-sourced free risk prediction algorithm QRISK3-2017 <https://qrisk.org/src.php>.

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Encoding UTF-8

LazyData true

RoxygenNote 7.2.3

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QRISK3_2017  Cardiovascular Disease 10-year Risk Calculation (QRISK3 2017)

Description

This function allows you to calculate 10-year individual CVD risk using QRISK3-2017.

Usage

QRISK3_2017(
  data,
  patid,
  gender,
  age,
  atrial_fibrillation,
  atypical_antipsy,
  regular_steroid_tablets,
  erectile_disfunction,
  migraine,
  rheumatoid_arthritis,
  chronic_kidney_disease,
  severe_mental_illness,
  systemic_lupus_erythematosis,
  blood_pressure_treatment,
  diabetes1,
  diabetes2,
  weight,
  height,
  ethiniciy,
  heart_attack_relative,
  cholesterol_HDL_ratio,
  systolic_blood_pressure,
  std_systolic_blood_pressure,
  smoke,
  townsend
)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>data</td>
<td>Specify your data.</td>
</tr>
<tr>
<td>patid</td>
<td>Specify the patient identifier.</td>
</tr>
<tr>
<td>gender</td>
<td>1: women 0: men.</td>
</tr>
<tr>
<td>age</td>
<td>Specify the age of the patient in year (e.g. 64 years-old)</td>
</tr>
<tr>
<td>atrial_fibrillation</td>
<td>Atrial fibrillation? (0: No, 1:Yes)</td>
</tr>
</tbody>
</table>
atypical_antipsy
    On atypical antipsychotic medication? (0: No, 1:Yes)

regular_steroid_tablets
    On regular steroid tablets? (0: No, 1:Yes)

erectile_dysfunction
    A diagnosis of or treatment for erectile dysfunction? (0: No, 1:Yes)

migraine
    Do patients have migraines? (0: No, 1:Yes)

rheumatoid_arthritis
    Rheumatoid arthritis? (0: No, 1:Yes)

chronic_kidney_disease
    Chronic kidney disease (stage 3, 4 or 5)? (0: No, 1:Yes)

severe_mental_illness
    Severe mental illness? (0: No, 1:Yes)

systemic_lupus_erythematosus
    Systemic lupus erythematosis (SLE)? (0: No, 1:Yes)

blood_pressure_treatment
    On blood pressure treatment? (0: No, 1:Yes)

diabetes1
    Diabetes status: type 1? (0: No, 1:Yes)

diabetes2
    Diabetes status: type 2? (0: No, 1:Yes)

weight
    Weight of patients (kg)

height
    Height of patients (cm)

ethnicity
    Ethnic group must be coded as the same as QRISK3
    1 White or not stated
    2 Indian
    3 Pakistani
    4 Bangladeshi
    5 Other Asian
    6 Black Caribbean
    7 Black African
    8 Chinese
    9 Other ethnic group

heart_attack_relative
    Angina or heart attack in a 1st degree relative < 60? (0: No, 1:Yes)

cholesterol_HDL_ratio
    Cholesterol/HDL ratio? (range from 1 to 11, e.g. 4)

systolic_blood_pressure
    Systolic blood pressure (mmHg, e.g. 180 mmHg)

std_systolic_blood_pressure
    Standard deviation of at least two most recent systolic blood pressure readings (mmHg)

smoke
    Smoke status must be coded as the same as QRISK3
1 non-smoker  
2 ex-smoker  
3 light smoker (less than 10)  
4 moderate smoker (10 to 19)  
5 heavy smoker (20 or over) 

townsend Townsend deprivation scores 

Value
Return a dataset with three columns: patient identifier, calculated QRISK3 score, calculated QRISK3 score with only 1 digit 

Examples
```r
data(QRISK3_2019_test)  
test_all <- QRISK3_2019_test  


test_all_rst$"QRISK_C_algorithm_score" <- test_all$"QRISK_C_algorithm_score"  
test_all_rst$"diff" <- test_all_rst$"QRISK3_2017_1digit" - test_all_rst$"QRISK_C_algorithm_score"  
print(test_all_rst$"diff")  
print(identical(test_all_rst$"QRISK3_2017_1digit", test_all_rst$"QRISK_C_algorithm_score"))
```
QRISK3_2019_test

Format
An object of class data.frame with 48 rows and 27 columns.

Examples
```r
data(QRISK3_2017_test)
str(QRISK3_2017_test)
```

Description
Data from QRISK3 original algorithm (C code) in 2019. The aim is to compare whether this package calculates the same score as the original algorithm. "QRISK_C_algorithm_score" in dataset is the score calculated using original algorithm in 2019. It should give the same score as this package. This data was similar to QRISK3_2017_test except that several test values have been changed.

Usage
```r
data(QRISK3_2019_test)
```

Format
An object of class data.frame with 49 rows and 27 columns.

Examples
```r
data(QRISK3_2019_test)
str(QRISK3_2019_test)
```
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