

Package: QRISK3 (via r-universe)

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

Version 0.5.0

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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

Repository <https://yanliuk.r-universe.dev>

RemoteUrl <https://github.com/yanliuk/qrisk3>

RemoteRef HEAD

RemoteSha 23ac04dc3beaa9e8816dc328291858c1f0ce4224

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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,  
  ethnicity,  
  heart_attack_relative,  
  cholesterol_HDL_ratio,  
  systolic_blood_pressure,  
  std_systolic_blood_pressure,  
  smoke,  
  townsend  
)
```

Arguments

| | |
|---------------------|--|
| data | Specify your data. |
| patid | Specify the patient identifier. |
| gender | 1: women 0: men. |
| age | Specify the age of the patient in year (e.g. 64 years-old) |
| atrial_fibrillation | Atrial fibrillation? (0: No, 1:Yes) |

| | |
|------------------------------|--|
| atypical_antipsy | On atypical antipsychotic medication? (0: No, 1:Yes) |
| regular_steroid_tablets | On regular steroid tablets? (0: No, 1:Yes) |
| erectile_disfunction | 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_erythematosis | 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, caculated QRISK3 score, caculated QRISK3 score with only 1 digit

Examples

```
data(QRISK3_2019_test)
test_all <- QRISK3_2019_test

test_all_rst <- QRISK3_2017(data=test_all, patid="ID", gender="gender", age="age",
atrial_fibrillation="b_AF", atypical_antipsy="b_atypicalantipsy",
regular_steroid_tablets="b_corticosteroids", erectile_disfunction="b_impotence2",
migraine="b_migraine", rheumatoid_arthritis="b_ra",
chronic_kidney_disease="b_renal", severe_mental_illness="b_semi",
systemic_lupus_erythematosis="b_sle",
blood_pressure_treatment="b_treatedhyp", diabetes1="b_type1",
diabetes2="b_type2", weight="weight", height="height",
ethnicity="ethrisk", heart_attack_relative="fh_cvd",
cholesterol_HDL_ratio="rati", systolic_blood_pressure="sbp",
std_systolic_blood_pressure="sbps5", smoke="smoke_cat", townsend="town")

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_2017_test

Test data for QRISK3 2017 algorithm - 2017 data

Description

Data from QRISK3 original algorithm (C code) in 2017. 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 2017. It should give the same score as this package.

Usage

```
data(QRISK3_2017_test)
```

Format

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

Examples

```
data(QRISK3_2017_test)
str(QRISK3_2017_test)
```

| | |
|------------------|--|
| QRISK3_2019_test | <i>Test data for QRISK3 2017 algorithm - 2019 data</i> |
|------------------|--|

Description

Data from QRISK3 original algorithm (C code) in 2019 <<https://qrisk.org/three/src.php>>. 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

```
data(QRISK3_2019_test)
```

Format

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

Examples

```
data(QRISK3_2019_test)
str(QRISK3_2019_test)
```

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