Package 'CVrisk'

January 10, 2026

Title Compute Risk Scores for Cardiovascular Diseases

Version 1.2.1

Description Calculate various cardiovascular disease risk scores from the Framingham Heart Study (FHS), the American College of Cardiology (ACC), and the American Heart Association (AHA) as described in D'agostino, et al (2008) <doi:10.1161/circulationaha.107.699579>, Goff, et al (2013) <doi:10.1161/01.cir.0000437741.48606.98>, and Mclelland, et al (2015) <doi:10.1016/j.jacc.2015.08.035>, and Khan, et al (2024) <doi:10.1161/CIRCULATIONAHA.123.067626>.

License GPL-3

Depends R (>= 3.5)

Encoding UTF-8

LazyData true

RoxygenNote 7.3.3

URL https://vcastro.github.io/CVrisk/, https://github.com/vcastro/CVrisk/

BugReports https://github.com/vcastro/CVrisk/issues

Imports utils, preventr

Suggests testthat (>= 2.1.0), covr, tibble, knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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Contents

`ascvd_10y_accaha` *ACC/AHA 2013 ASCVD risk score*

Description

Computes 10-year risk for hard ASCVD event (defined as first occurrence of non-fatal myocardial infarction (MI), congestive heart disease (CHD) death, or fatal or nonfatal stroke).

Usage

```
ascvd_10y_accaha(
  race = "white",
  gender = c("male", "female"),
  age,
  totchol,
  hdl,
  sbp,
  bp_med,
  smoker,
  diabetes,
  ...
)
```

Arguments

`race`	patient race (white, aa, other)
`gender`	patient gender (male, female)
`age`	patient age (years)

totchol	Total cholesterol (mg/dL)
hdl	HDL cholesterol (mg/dL)
sbp	Systolic blood pressure (mm Hg)
bp_med	Patient is on a blood pressure medication (1=Yes, 0=No)
smoker	Current smoker (1=Yes, 0=No)
diabetes	Diabetes (1=Yes, 0=No)
...	Additional predictors can be passed and will be ignored

Value

Estimated 10-Y Risk for hard ASCVD (percent)

References

Goff, David C., et al. "2013 ACC/AHA guideline on the assessment of cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines." Journal of the American College of Cardiology 63.25 Part B (2014): 2935-2959.

Examples

```
library(CVrisk)
ascvd_10y_accaha(
  race = "aa", gender = "male", age = 55,
  totchol = 213, hdl = 50, sbp = 140,
  bp_med = 0, smoker = 0, diabetes = 0
)
```

---

ascvd_10y_frs *Framingham 2008 ASCVD risk score (with lab measurement)*

Description

Computes 10-year risk for ASCVD event (coronary death, myocardial infarction (MI), coronary insufficiency, angina, ischemic stroke, hemorrhagic stroke, transient ischemic attack, peripheral artery disease, or heart failure).

Usage

```
ascvd_10y_frs(
  gender = c("male", "female"),
  age,
  hdl,
  totchol,
  sbp,
  bp_med,
  smoker,
  diabetes,
  ...
)
```

Arguments

gender	patient gender (male, female)
age	patient age (years), between 30 and 74
hdl	HDL cholesterol (mg/dL)
totchol	Total cholesterol (mg/dL)
sbp	Systolic blood pressure (mm Hg)
bp_med	Patient is on a blood pressure medication (1=Yes, 0=No)
smoker	Current smoker (1=Yes, 0=No)
diabetes	Diabetes (1=Yes, 0=No)
...	Additional predictors can be passed and will be ignored

Value

Estimated 10-Y Risk for hard ASCVD event (percent)

References

D'agostino, R.B., Vasan, R.S., Pencina, M.J., Wolf, P.A., Cobain, M., Massaro, J.M. and Kannel, W.B., 2008. General cardiovascular risk profile for use in primary care: the Framingham Heart Study. Circulation, 117(6), pp.743-753.

Examples

```
library(CVrisk)
ascvd_10y_frs(
  gender = "male", age = 55,
  hdl = 50, totchol = 213, sbp = 140,
  bp_med = 0, smoker = 0, diabetes = 0
)

# 16.7
```

---

ascvd_10y_frs_simple *Framingham 2008 ASCVD risk score (no lab measurement)*

Description

Computes 10-year risk for ASCVD event (coronary death, myocardial infarction (MI),coronary insufficiency, angina, ischemic stroke, hemorrhagic stroke, transient ischemic attack, peripheral artery disease, or heart failure).

Usage

```
ascvd_10y_frs_simple(
  gender = c("male", "female"),
  age,
  bmi,
  sbp,
  bp_med,
  smoker,
  diabetes,
  ...
)
```

Arguments

gender	patient gender (male, female)
age	patient age (years), between 30 and 74
bmi	Body mass index (kg/m2)
sbp	Systolic blood pressure (mm Hg)
bp_med	Patient is on a blood pressure medication (1=Yes, 0=No)
smoker	Current smoker (1=Yes, 0=No)
diabetes	Diabetes (1=Yes, 0=No)
...	Additional predictors can be passed and will be ignored

Value

Estimated 10-Y Risk for hard ASCVD (percent)

References

D'agostino, R.B., Vasan, R.S., Pencina, M.J., Wolf, P.A., Cobain, M., Massaro, J.M. and Kannel, W.B., 2008. General cardiovascular risk profile for use in primary care: the Framingham Heart Study. Circulation, 117(6), pp.743-753.

Examples

```
library(CVrisk)
ascvd_10y_frs_simple(
  gender = "male", age = 55,
  bmi = 30, sbp = 140,
  bp_med = 0, smoker = 0, diabetes = 0
)

# 16.7
```

`ascvd_10y_prevent` *PREVENT 10-year ASCVD risk score*

Description

Computes 10-year risk for ASCVD (atherosclerotic cardiovascular disease) using the American Heart Association PREVENT equations (2023).

Usage

```
ascvd_10y_prevent(
  gender = c("male", "female"),
  age,
  sbp,
  bp_med,
  totchol,
  hdl,
  statin,
  diabetes,
  smoker,
  egfr,
  bmi,
  hba1c = NULL,
  uacr = NULL,
  zip = NULL,
  model = "auto",
  ...
)
```

Arguments

`gender`	patient gender (male, female)
`age`	patient age (years), between 30 and 79
`sbp`	Systolic blood pressure (mm Hg)
`bp_med`	Patient is on a blood pressure medication (1=Yes, 0=No)
`totchol`	Total cholesterol (mg/dL)
`hdl`	HDL cholesterol (mg/dL)
`statin`	Patient is on a statin (1=Yes, 0=No)
`diabetes`	Diabetes (1=Yes, 0=No)
`smoker`	Current smoker (1=Yes, 0=No)
`egfr`	Estimated glomerular filtration rate (mL/min/1.73m2)
`bmi`	Body mass index (kg/m2)
`hba1c`	Glycated hemoglobin (HbA1c) in percent (optional)

uacr	Urine albumin-to-creatinine ratio in mg/g (optional)
zip	ZIP code for Social Deprivation Index (optional)
model	PREVENT model variant to use: "auto" (default, selects based on available data), "base", "hba1c", "uacr", "sdi", or "full"
...	Additional predictors can be passed and will be ignored

Value

10-year ASCVD risk estimate (percent)

References

Khan SS, Matsushita K, Sang Y, Ballew SH, Grams ME, Surapaneni A, Blaha MJ, Carson AP, Chang AR, Ciemins E, Go AS, Gutierrez OM, Hwang SJ, Jassal SK, Kovesdy CP, Lloyd-Jones DM, Shlipak MG, Palaniappan LP, Sperling L, Virani SS, Tuttle K, Neeland IJ, Chow SL, Rangaswami J, Pencina MJ, Ndumele CE, Coresh J; Chronic Kidney Disease Prognosis Consortium and the American Heart Association Cardiovascular-Kidney-Metabolic Science Advisory Group. Development and Validation of the American Heart Association's PREVENT Equations. Circulation. 2024 Feb 6;149(6):430-449.

Examples

```
library(CVrisk)
# Base model (default when model = "auto" and no optional predictors provided)
ascvd_10y_prevent(
  gender = "female", age = 50,
  sbp = 160, bp_med = 1,
  totchol = 200, hdl = 45,
  statin = 0, diabetes = 1, smoker = 0,
  egfr = 90, bmi = 35
)

# Explicitly specify base model
ascvd_10y_prevent(
  gender = "female", age = 50,
  sbp = 160, bp_med = 1,
  totchol = 200, hdl = 45,
  statin = 0, diabetes = 1, smoker = 0,
  egfr = 90, bmi = 35,
  model = "base"
)

# Auto model with HbA1c (will use hba1c model variant)
ascvd_10y_prevent(
  gender = "male", age = 55,
  sbp = 140, bp_med = 0,
  totchol = 213, hdl = 50,
  statin = 0, diabetes = 0, smoker = 0,
  egfr = 90, bmi = 30,
  hba1c = 6.5
)
```

`ascvd_30y_prevent` *PREVENT 30-year ASCVD risk score*

Description

Computes 30-year risk for ASCVD (atherosclerotic cardiovascular disease) using the American Heart Association PREVENT equations (2023).

Usage

```
ascvd_30y_prevent(
  gender = c("male", "female"),
  age,
  sbp,
  bp_med,
  totchol,
  hdl,
  statin,
  diabetes,
  smoker,
  egfr,
  bmi,
  hba1c = NULL,
  uacr = NULL,
  zip = NULL,
  model = "auto",
  ...
)
```

Arguments

`gender`	patient gender (male, female)
`age`	patient age (years), between 30 and 79
`sbp`	Systolic blood pressure (mm Hg)
`bp_med`	Patient is on a blood pressure medication (1=Yes, 0=No)
`totchol`	Total cholesterol (mg/dL)
`hdl`	HDL cholesterol (mg/dL)
`statin`	Patient is on a statin (1=Yes, 0=No)
`diabetes`	Diabetes (1=Yes, 0=No)
`smoker`	Current smoker (1=Yes, 0=No)
`egfr`	Estimated glomerular filtration rate (mL/min/1.73m2)
`bmi`	Body mass index (kg/m2)

hba1c	Glycated hemoglobin (HbA1c) in percent (optional)
uacr	Urine albumin-to-creatinine ratio in mg/g (optional)
zip	ZIP code for Social Deprivation Index (optional)
model	PREVENT model variant to use: "auto" (default, selects based on available data), "base", "hba1c", "uacr", "sdi", or "full"
...	Additional predictors can be passed and will be ignored

Value

30-year ASCVD risk estimate (percent)

References

Khan SS, Matsushita K, Sang Y, Ballew SH, Grams ME, Surapaneni A, Blaha MJ, Carson AP, Chang AR, Ciemins E, Go AS, Gutierrez OM, Hwang SJ, Jassal SK, Kovesdy CP, Lloyd-Jones DM, Shlipak MG, Palaniappan LP, Sperling L, Virani SS, Tuttle K, Neeland IJ, Chow SL, Rangaswami J, Pencina MJ, Ndumele CE, Coresh J; Chronic Kidney Disease Prognosis Consortium and the American Heart Association Cardiovascular-Kidney-Metabolic Science Advisory Group. Development and Validation of the American Heart Association's PREVENT Equations. Circulation. 2024 Feb 6;149(6):430-449.

Examples

```
library(CVrisk)
# Base model (default when model = "auto" and no optional predictors provided)
ascvd_30y_prevent(
  gender = "female", age = 50,
  sbp = 160, bp_med = 1,
  totchol = 200, hdl = 45,
  statin = 0, diabetes = 1, smoker = 0,
  egfr = 90, bmi = 35
)

# Explicitly specify base model
ascvd_30y_prevent(
  gender = "male", age = 45,
  sbp = 130, bp_med = 0,
  totchol = 200, hdl = 50,
  statin = 0, diabetes = 0, smoker = 1,
  egfr = 95, bmi = 28,
  model = "base"
)

# Auto model with UACR (will use uacr model variant)
ascvd_30y_prevent(
  gender = "male", age = 55,
  sbp = 140, bp_med = 0,
  totchol = 213, hdl = 50,
  statin = 0, diabetes = 0, smoker = 0,
  egfr = 90, bmi = 30,
```

```
  uacr = 25
)
```

`ascvd_pooled_coef` *Model coefficients for ASCVD 10y ACC/AHA model*

Description

A data set containing the 2013 ACC/AHA ASCVD 10-year risk pooled cohort coefficients

Usage

```
ascvd_pooled_coef
```

Format

A data frame with 4 obs. and 17 variables:

race Patient race, either white or aa

gender Patient gender, either female or male

ln_age Natural log of patient age

ln_age_squared Natural log of patient age in years, squared

ln_totchol Natural log of total cholesterol level

ln_age_totchol Natural log of combined age and total cholesterol

ln_hdl Natural log of HDL level

ln_age_hdl Natural log of HDL and age

ln_treated_sbp Natural log of treated systolic blood pressure

ln_age_treated_sbp Natural log of treated systolic blood pressure and age

ln_untreated_sbp Natural log of untreated systolic blood pressure

ln_age_untreated_sbp Natural log of untreated systolic blood pressure and age

smoker Smoking status

ln_age_smoker Natural log of smoking status and age

diabetes Diabetes status

group_mean Grouped mean

baseline_survival Baseline survival

References

Goff, David C., et al. "2013 ACC/AHA guideline on the assessment of cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines." Journal of the American College of Cardiology 63.25 Part B (2014): 2935-2959.

chd_10y_mesa *MESA 2015 CHD risk score*

Description

Computes 10-year risk for hard coronary heart disease (CHD) event (defined as first occurrence of myocardial infarction (MI), resuscitated cardiac arrest, CHD death, or revascularization with prior or concurrent adjudicated angina).

Usage

```
chd_10y_mesa(
  race = "white",
  gender = c("male", "female"),
  age,
  totchol = NA,
  hdl = NA,
  lipid_med = NA,
  sbp = NA,
  bp_med = NA,
  smoker = NA,
  diabetes = NA,
  fh_heartattack = NA,
  ...
)
```

Arguments

race	patient race/ethnicity (white, aa, chinese, or hispanic)
gender	patient gender (male, female)
age	patient age (years), risk computed for 45-85 year olds
totchol	Total cholesterol (mg/dL)
hdl	HDL cholesterol (mg/dL)
lipid_med	Patient is on a hyperlipidemic medication (1=Yes, 0=No)
sbp	Systolic blood pressure (mm Hg)
bp_med	Patient is on a blood pressure medication (1=Yes, 0=No)
smoker	Current smoker (1=Yes, 0=No)
diabetes	Diabetes (1=Yes, 0=No)
fh_heartattack	Family history of heart attacks (parents, siblings ,or children) (1=Yes, 0=No)
...	Additional predictors can be passed and will be ignored

Value

Estimated 10-Y Risk for hard CAD event (percent)

References

McClelland RL, Jorgensen NW, Budoff M, et al. 10-Year Coronary Heart Disease Risk Prediction Using Coronary Artery Calcium and Traditional Risk Factors: Derivation in the MESA (Multi-Ethnic Study of Atherosclerosis) With Validation in the HNR (Heinz Nixdorf Recall) Study and the DHS (Dallas Heart Study). J Am Coll Cardiol. 2015;66(15):1643-1653. doi:10.1016/j.jacc.2015.08.035

Examples

```
library(CVrisk)
chd_10y_mesa(
  race = "aa", gender = "male", age = 55,
  totchol = 213, hdl = 50, sbp = 140, lipid_med = 0,
  bp_med = 1, smoker = 0, diabetes = 0, fh_heartattack = 0
)
```

---

chd_10y_mesa_cac *MESA 2015 CHD risk score with CAC*

Description

Computes 10-year risk for hard coronary heart disease (CHD) event (defined as first occurrence of myocardial infarction (MI), resuscitated cardiac arrest, CHD death, or revascularization with prior or concurrent adjudicated angina). Includes coronary artery calcification score for more precise estimate of risk

Usage

```
chd_10y_mesa_cac(
  race = "white",
  gender = c("male", "female"),
  age,
  totchol = NA,
  hdl = NA,
  lipid_med = NA,
  sbp = NA,
  bp_med = NA,
  smoker = NA,
  diabetes = NA,
  fh_heartattack = NA,
  cac = NA,
  ...
)
```

Arguments

race	patient race/ethnicity (white, aa, chinese, or hispanic)
gender	patient gender (male, female)

age	patient age (years), risk computed for 45-85 year olds
totchol	Total cholesterol (mg/dL)
hdl	HDL cholesterol (mg/dL)
lipid_med	Patient is on a hyperlipidemic medication (1=Yes, 0=No)
sbp	Systolic blood pressure (mm Hg)
bp_med	Patient is on a blood pressure medication (1=Yes, 0=No)
smoker	Current smoker (1=Yes, 0=No)
diabetes	Diabetes (1=Yes, 0=No)
fh_heartattack	Family history of heart attacks (parents, siblings ,or children) (1=Yes, 0=No)
cac	Coronary artery calcification (Agatston units)
...	Additional predictors can be passed and will be ignored

Value

Estimated 10-Y Risk for hard CAD event (percent)

References

McClelland RL, Jorgensen NW, Budoff M, et al. 10-Year Coronary Heart Disease Risk Prediction Using Coronary Artery Calcium and Traditional Risk Factors: Derivation in the MESA (Multi-Ethnic Study of Atherosclerosis) With Validation in the HNR (Heinz Nixdorf Recall) Study and the DHS (Dallas Heart Study). J Am Coll Cardiol. 2015;66(15):1643-1653. doi:10.1016/j.jacc.2015.08.035

Examples

```
library(CVrisk)
chd_10y_mesa_cac(
  race = "aa", gender = "male", age = 55,
  totchol = 213, hdl = 50, sbp = 140, lipid_med = 0,
  bp_med = 1, smoker = 0, diabetes = 0, fh_heartattack = 0, cac = 0
)
```

---

compute_CVrisk *Compute multiple CV risk scores*

Description

Compute multiple CV risk scores

Usage

```
compute_CVrisk(
  df,
  scores = c("ascvd_10y_accaha", "ascvd_10y_frs", "ascvd_10y_frs_simple", "chd_10y_mesa",
    "chd_10y_mesa_cac"),
  age,
  gender,
  race = NULL,
  sbp = NULL,
  bmi = NULL,
  hdl = NULL,
  totchol = NULL,
  bp_med = NULL,
  smoker = NULL,
  diabetes = NULL,
  lipid_med = NULL,
  statin = NULL,
  egfr = NULL,
  fh_heartattack = NULL,
  cac = NULL,
  ...
)
```

Arguments

df	input dataframe
scores	scores to compute, default is all scores
age	patient age in years (required for all scores)
gender	patient gender (male or female)
race	character string for patient race (white, aa, other) column
sbp	character string of systolic blood pressure (in mm Hg) column
bmi	character string of Body mass index (kg/m2) column
hdl	character string of HDL column
totchol	character string of total cholesterol column
bp_med	character string of blood pressure medication column
smoker	character string of smoking status column
diabetes	character string of diabetes status column
lipid_med	character string of lipid medication column (used as statin if statin not provided)
statin	character string of statin medication column (takes precedence over lipid_med)
egfr	character string of estimated glomerular filtration rate column
fh_heartattack	character string of fh of heart attack status column
cac	character string of cac column
...	Additional arguments to pass to score functions (e.g., model parameter for PREVENT scores)

Value

input data frame with risk score results appended as columns

Examples

```
library(CVrisk)
# Compute traditional risk scores
compute_CVrisk(sample_data,
  scores = c("ascvd_10y_accaha", "ascvd_10y_frs", "ascvd_10y_frs_simple",
             "chd_10y_mesa", "chd_10y_mesa_cac", "ascvd_10y_prevent"),
  age = "age", race = "race", gender = "gender", bmi = "BMI", sbp = "sbp",
  hdl = "hdl", totchol = "totchol", bp_med = "bp_med", smoker = "smoker",
  diabetes = "diabetes", lipid_med = "lipid_med", egfr = "egfr",
  fh_heartattack = "fh_heartattack", cac = "cac"
)
```

---

frs_coef *Model coefficients for ASCVD 10y FRS model*

Description

A data set containing the Framingham risk score coefficients (full model with lab features)

Usage

```
frs_coef
```

Format

A data frame with 2 obs. and 10 variables:

gender Patient gender, either female or male

ln_age Natural log of patient age

ln_totchol Natural log of total cholesterol level

ln_hdl Natural log of HDL level

ln_untreated_sbp Natural log of untreated systolic blood pressure

ln_treated_sbp Natural log of treated systolic blood pressure

smoker Smoking status

diabetes Diabetes status

group_mean Grouped mean

baseline_survival Baseline survival

References

D'agostino, R.B., Vasan, R.S., Pencina, M.J., Wolf, P.A., Cobain, M., Massaro, J.M. and Kannel, W.B., 2008. General cardiovascular risk profile for use in primary care. Circulation, 117(6), pp.743-753.

frs_simple_coef *Model coefficients for ASCVD 10y FRS simple model*

Description

A data set containing the Framingham risk score coefficients (simple model without lab features)

Usage

```
frs_simple_coef
```

Format

A data frame with 2 obs. and 10 variables:

gender Patient gender, either female or male

ln_age Natural log of patient age (years)

ln_bmi Natural log of body mass index kg/m2

ln_untreated_sbp Natural log of untreated systolic blood pressure

ln_treated_sbp Natural log of treated systolic blood pressure

smoker Smoking status

diabetes Diabetes status

group_mean Grouped mean

baseline_survival Baseline survival

References

D'agostino, R.B., Vasan, R.S., Pencina, M.J., Wolf, P.A., Cobain, M., Massaro, J.M. and Kannel, W.B., 2008. General cardiovascular risk profile for use in primary care. Circulation, 117(6), pp.743-753.

make_sample_data *Generate sample cardiovascular risk data*

Description

Creates a data frame with randomly generated patient data suitable for testing cardiovascular risk calculations. The function generates realistic ranges for all standard cardiovascular risk factors.

Usage

```
make_sample_data(n = 100)
```

Arguments

n	Number of rows to generate (default: 100)

Value

A data frame with n rows and the following columns:

id Sequential patient identifier (1 to n)

age Patient age in years (30-79)

sex Sex at birth ("female" or "male")

race Patient race ("white", "aa", or "other")

sbp Systolic blood pressure in mm Hg (90-200)

bp_med Blood pressure medication status (TRUE/FALSE)

totchol Total cholesterol in mg/dL (130-320)

hdl HDL cholesterol in mg/dL (20-100)

lipid_med Lipid medication status (TRUE/FALSE)

diabetes Diabetes status (TRUE/FALSE)

smoker Smoking status (TRUE/FALSE)

egfr Estimated glomerular filtration rate in mL/min/1.73m2 (15-140)

bmi Body mass index in kg/m2 (18.5-39.9)

hba1c Hemoglobin A1c percentage (4.5-15.0 or NA)

uacr Urine albumin-to-creatinine ratio in mg/g (0.1-25000 or NA)

zip ZIP code (30 valid codes or NA)

Examples

```
library(CVrisk)
# Generate default 100 rows
sample_data <- make_sample_data()

# Generate 50 rows
sample_data_50 <- make_sample_data(n = 50)

# Use with compute_CVrisk
## Not run:
data <- make_sample_data(n = 10)
result <- compute_CVrisk(
  data,
  scores = "ascvd_10y_accaha",
  age = "age",
  gender = "sex",
  race = "race",
  sbp = "sbp",
  totchol = "totchol",
  hdl = "hdl",
  bp_med = "bp_med",
```

```
  smoker = "smoker",
  diabetes = "diabetes"
)

## End(Not run)
```

`mesa_cac_coef` *mesa_cac_coef*

Description

A data set containing the MESA risk score coefficients (model with CAC)

Usage

```
mesa_cac_coef
```

Format

A data frame with 1 obs. and 15 variables:

age Coefficient for age

gender_male Coefficient for male gender

race_chinese Coefficient for Chinese race

race_aa Coefficient for African American race

race_hispanic Coefficient for Hispanic race

diabetes Coefficient for diabetes status

smoker Coefficient for current smoker

totchol Coefficient for total cholesterol level

hdl Coefficient for HDL level

hld_med Coefficient for antihyperlipidemic medication

sbp Coefficient for systolic blood pressure

bp_med Coefficient for antihypertensive medication

fh_heartattack Coefficient for family history of heart attacks

log1p_cac Coefficient for ln(coronary artery calcification (units)+1)

baseline_survival Baseline survival

References

McClelland RL, Jorgensen NW, Budoff M, et al. 10-Year Coronary Heart Disease Risk Prediction Using Coronary Artery Calcium and Traditional Risk Factors: Derivation in the MESA (Multi-Ethnic Study of Atherosclerosis) With Validation in the HNR (Heinz Nixdorf Recall) Study and the DHS (Dallas Heart Study). J Am Coll Cardiol. 2015;66(15):1643-1653. doi:10.1016/j.jacc.2015.08.035

mesa_coef *mesa_coef*

Description

A data set containing the MESA risk score coefficients (model without CAC)

Usage

```
mesa_coef
```

Format

A data frame with 1 obs. and 14 variables:

age Coefficient for age

gender_male Coefficient for male gender

race_chinese Coefficient for Chinese race

race_aa Coefficient for African American race

race_hispanic Coefficient for Hispanic race

diabetes Coefficient for diabetes status

smoker Coefficient for current smoker

totchol Coefficient for total cholesterol level

hdl Coefficient for HDL level

hld_med Coefficient for antihyperlipidemic medication

sbp Coefficient for systolic blood pressure

bp_med Coefficient for antihypertensive medication

fh_heartattack Coefficient for family history of heart attacks

baseline_survival Baseline survival

References

McClelland RL, Jorgensen NW, Budoff M, et al. 10-Year Coronary Heart Disease Risk Prediction Using Coronary Artery Calcium and Traditional Risk Factors: Derivation in the MESA (Multi-Ethnic Study of Atherosclerosis) With Validation in the HNR (Heinz Nixdorf Recall) Study and the DHS (Dallas Heart Study). J Am Coll Cardiol. 2015;66(15):1643-1653. doi:10.1016/j.jacc.2015.08.035

`sample_data` *Sample patient data*

Description

A data set containing sample patient data

Usage

```
sample_data
```

Format

A data frame with 3 obs. and 10 variables:

age age in years

gender Patient gender

race race

BMI Body mass index (kg/m2)

sbp systolic blood pressure

hdl HDL

totchol Total cholesterol

bp_med Patient is on blood pressure medication

smoker Smoking status

diabetes Diabetes status

lipid_med Patient is on hyperlipidemic medication

fh_heartattack Family history of heart attack

cac Coronary artery calcification score

egfr Estimated glomerular filtration rate (mL/min/1.73m2)

Index