

Supplement Material

Risk Factor	Indicator	Evidence type	Token Features	Context Features	Section Features	Domain Features
CAD	mention	NE	✓	✓	-	✓
	event	CF	✓	✓	-	✓
	test	CF	✓	✓	-	✓
	symptom	CF	✓	✓	-	✓
DIABETES	mention	NE	✓	✓	-	✓
	A1C	CM	-	-	✓	-
	glucose	CM	-	-	✓	-
OBESE STATUS	mention	NE	✓	✓	-	✓
	BMI	CM	-	-	✓	-
HYPERLIMIDEMIA	mention	NE	✓	✓	-	✓
	high LDL	CM	-	-	✓	-
	high chol.	CM	-	-	✓	-
HYPERTENSION	mention	NE	✓	✓	-	✓
	high bp	CM	-	-	✓	-
MEDICATION	medication (+18)	NE	✓	✓	✓	✓
SMOKER STATUS	current	CF	✓	-	✓	✓
	ever	CF	✓	-	✓	✓
	never	CF	✓	-	✓	✓
	past	CF	✓	-	✓	✓
FAMILY HISTORY	present	CF	-	-	✓	✓

Figure 1. The features used for the detection of various risk indicators

Supplement Keyword

1. Clinical Fact – FreqTerms

(a) CAD_Event_Keyword

3-vessel
ACS
AMI
angina
angiogram
Angioplasty
anterior
antero-lateral
anteroapical
anterolateral
anteroseptal
aortic
artery
ASMI
Aterial
attack
balloon
bare-metal
BMS
BPG
bypass
CABG
CABGx4
cardiac
cardiomyopathy
cath
catherization
catheterization
circumflex
collateral
coronary
Cx
Cypher
D1
D2
deployment
diagonal
diffusely
diseased
dissection
EF
EKG
elevation
elute

enlargement
ETT
fem
fem-pop
femoral
graft
Grafting
heart
IABP
IMI
infarct
infarction
infarctions
infart
inferior
inferolateral/apical
Intra-aortic
intramyocardial
ischemia
ischemic
LAD
lateral
LCX
lesion
LH
LIMA
LPC
LV
LVEF
Magna
MI
MIs
multi-lesion
multi-vessel
multiple
multivessel
myocardial
non
non-Q
non-Q-wave
non-ST
non-ST-elevation
nonSTEMIA
NQWMI
NSTEMI
obstr
obtuse
occlusion
off-pump

OM
OM2
patent
patient
PCI
PDA
PEA
percutaneous
peri-infarct
place
placed
placement
placements
PLV
POBA
pop
position
positive
post
post-PCI
posterior
posterobasal
posterolateral
postop
postoperative
pRCA
pre-bypass
prosthetic
PTCA
pump
ramus
RCA
recannalize
replacement
s/p
saphenous
scan
segment
SEMI
septal
ST
stable
status
STEMI
stenosis
stenotic
stent
stente
stenting

stents
SVG
Taxus
three
three-vessel
thrombectomy
thrombus
tight
two
two-vessel
valve
vein
venous
ventricular
vessel
VF
wall
wave
WMMC
x
x2
x3

(b) CAD_Symptom_Keyword

ache
angina
anginal
anterior
arm
axilla
burn
Ch
chest
chestpain
CP
diaphoresis
discomfort
dizziness
dyspnea
episode
exertion
exertional
forearm
intermittent
intrascapular
Ischemia
mid-sternal
nauseau
nocturnal
pain

palpitation
pectoris
pressing
pressure
pressure-like
radiate
radiation
recurrent
retrosternal
scapular
shortness
SSCP
stable
stutter
substernal
symptom
syndrome
tachycardia
tenderness
tightness
unstable

(c) CAD_Test_Keyword

abnormal
abnormality
adenoMIBI
aneurysmal
angina
angiogram
angiography
anterior
anteroapical
anterolateral
anteroseptal
aortic
aortoiliac
apex
apical
appear
Artery
atretic
AVF
basal
bilateral
block
blood
branch
BS
CABG
CAD

calcify
capacity
cardiac
Carotid
Cath
catheterization
CIRCDiscrete
CIRCRight
Circumflex
CNI
collateral
collaterals
Community
competitive
complete
complex
consistent
coronary
Critical
culprit
CV
Cx
D1
D2
decrease
defect
defib
demonstrate
depression
descend
Descending
diabetic
DIAG1
diagonal
diameter
diffuse
diffusely
dilate
dilation
discharge
Discrete
disease
distal
distribution
dobutamine
Dominance
dominant
eccentric
ECG

EF
ejection
elective
electrocardiac
elevate
estimate
ETT
ETT-MIBI
evidence
exercise
faint
feel
femoral
fill
Filling
fix
fixed
flow
flow-limiting
focal
fraction
Gibson
grade
graft
Heart
heavily
hypokinesis
II
III
image
imaging
in-stent
induce
inf
infarct
infarction
inferior
inferolateral
inferoposterior
inlet
involve
ischemia
LAD
LCx
lead
leave
Left
lesion
LHC

LHCath
LIMA
limited
limiting
LM
LM/LAD
LPC
LPDA
LV
LVEDP
LVEF
MARG1
marginal
METS
MI
MIBI
mid
mid-distal
mid-LAD
mid-RCA
mild
mild-to-distal
minimal
Minivision
minor
minute
mitral
mLCX
mod
moderate
moderately
more
motion
mPDA
MPHR
MR
mRCA
multi
multivessel
Myocardial
non-dominant
non-intervenable
non-invasive
nonspecific
note
obstr
obstruction
obtuse
occlude

occlusion
OM
OM1
OM2
OM4
orbit
order
origin
osteal
ostial
ostium
patent
patient
PDA
peak
percent
perform
Perfusion
peri
peri-infarct
persantine
plaque
PLV
poor
portion
positive
POST
posterior
posterobasal
pre-intervention
pressure
Pressures
presume
previous
prior
progressive
prox
proximal
proximally
ramus
RCA
RCADiscrete
receive
recently
reduce
regurgitation
renal
repeat
reperfusion

report
residual
restenosis
result
return
rev
reveal
reversible
RICA
right
rise
s/p
scan
scar
second
seconds
septal
SESTA
severe
severely
significant
SPECT
sq
SSH
ST
stable
STATUS
stenosed
stenosis
stent
stente
stress
stress-induced
study
subsequent
suggest
surround
SVG
symptom
system
takeoff
taper
territory
territory
test
text
Thallium
third
three

thrombotic
thrombus
time
Titonka
TnI
transfer
transient
troponin
Troponin-T
TTE
unbypassed
unsuccessful
use
V
V5
V6
vague
valve
vein
ventricular
vessel
Vfib
via
visualize
visualized
wall
wave
WMA
Xience
zone

2. Disease – FreqTerms

(a) CAD

arteriosclerosis
artery
atherosclerotic
CAD
carotid
Cardiac
coronary
disease
heart
ischemia
Ischemic
vascular
vessel

(b) DIABETES

AODM
diabete
diabetes

diabetic
diabetics
DM
DM-1
DM-2
DM1
DM2
DMI
DMII
DMT1
DMT2
IDDM
IDDM1
IDDM2
mellitus
NIDDM
T1DM
T2DM
(c) OBESE
obeise
obese
obesity
obsese
(d) HYPERTENSION
antihypertensive
HBP
HT
HTM
HTN
HTNDM
hypertension
hypertensive
hypetension
(e) HYPERLIMIDEMIA
Chol
cholesterol
dyslipidemia
HL
HLD
HLP
Hyperchol
Hypercholesteremia
hypercholesterolemia
hyperlipidemia
lipid
Lipids

3. Medication – FreqTerms

(a) ACE inhibitor
Accupril

ACE
ACE-I
ACEI
Altace
Altase
captopril
Captopril
ENALAPRIL
Fosinoperil
fosinopril
inhibitor
linsinopril
lisin
Lisino
lisinopril
Lisinoprill
lisinorpill
lisnopril
Monopril
QUINAPRIL
ramipril
sisinoril
Vaseretic
VASOTEC
Zestoretic
Zestril

(b) ARB
ARB
Atacand
Atican
avalide
avapro
Benicar
CANDESARTAN
Cozaar
Cozar
Cozzar
Diovan
Hyzaar
IRBESARTAN
irbesartran
Losartan
valsartan

(c) Aspirin
ACETYLSALICYLIC
ACI
ACID
ASA
Ascorbic

aspirin
ecasa
Ecotrin
(d) Beta Blocker
Atenenlol
Atenlol
atenolol
Atenololl
atneolol
BB
bblocker
beta
Beta-blocker
betablocker
BISOPROLOL
blockade
blocker
blockers
Carvedilol
coreg
esmolol
FUMARATE
Inderal
Labetalol
Labetolol
lopressor
Metoprolol
Metroprolol
Nadolol
Propranolol
Sotalol
tartrate
tenormin
Timolol
Toprol
Trandate
Zabeta
Zebeta
(e) calcium channel blocker
amlidopine
AMLODIPINE
besylate
Calan
Cardizem
CCB
Diltiazem
Felodipine
nicardipine
nifedipine

nitroprusside
norvasc
Procardia
verapamil
(f) diuretic
Bumex
diuretic
Dyazide
HCTZ
Hydochlorothiazide
Hydrochlorothiazide
hydrochlorthiazide
metolazone
spironolactone
TRIAMTERENE
(g) ezetimibe
ezetimbe
Ezetimibe
Zetia
(h) fibrate
fenofibrate
Gemfibrozil
gemofibrozil
Lopid
Tricor
(i) insulin
70/30
75/25
70-30
Aspart
CZI
DETEMIR
Flexpen
GLARGINE
Humalin
Humalog
Humulin
Hunulin
insluin
insulin
Lantus
LEVEMIR
Lispro
Novolin
Novolog
NPH
rdna
Reg
Regular

RISS
Solostar
SSI
(j) metformin
Glucopahge
Glucophage
HCL
hydrochloride
Metfomin
Metforman
metformin
Metformin
Metormin
Netformin
(k) niacin
niaspan
niacin
(l) nitrate
Dilatrate
Dinitrate
Imdur
ISDN
Isordil
ISOSORBIDE
MONONIT
mononitrate
mononitrite
NG
nitoglycerin
nitrate
nitro
nitroglycerin
nitroglycerine
nitroglycerins
nitrogylcerin
nitrol
nitropaste
nitropatch
Nitroquick
Nitros
NTG
Ranexa
RANOLAZINE
SLNG
SLNTG
SLTNG
TNG
(m) statin
atorvastatin

Caduet
Crestor
Fluvastatin
Leschol
Lescol
lipitor
lovastatin
Mevacor
Pravachol
pravastain
pravastatin
provachol
ROSUVASTATIN
simvastain
simvastatin
simvastin
statin
Vytorin
Zocor
(n) sulfonylureas
Amaryl
Diabeta
Glimepiride
Glipizide
Glucotrol
glucotrol
Glucovance
Gluctrol
Glyberide
Glyburide
Glybyride
Glynase
Micronaise
Micronase
sulfonylurea
(o) thiazolidinedione
acto
Actose
Avandia
PIOGLITAZONE
ROSIGLITAZONE
troglitazone
(p) thienopyridine
bisulfate
CLOPIDOGREL
plavix
prasugrel

4. Smoke - FreqTerms

(a) Current

Active
continue
Current
currently
decrease
restart
start
abuse
use
(b) Never
-
-none
-tobacco
abstain
deny
n't
neg
Negative
Never
no
non
Non-smoker
none
Nonsmoker
nor
not
(c) Past
ago
cessation
Deny
discontinue
Ex
Ex-smoker
ex-tob
Exsmoker
Former
no
non
non-smoking
none
not
Past
prev
prior
quit
Remote
smoker-quit
stop
teen

teen-once