# Framingham Risk Score for Hard Coronary Heart Disease

## INPUTS

|  |  |
| --- | --- |
| Age | **Options:** |
| Sex | **Options:**   * Female * Male |
| Smoker | **Options:**   * No * Yes |
| Total cholesterol | **Options:** |
| HDL cholesterol | **Options:** |
| Systolic BP | **Options:** |
| Blood pressure being treated with medicines | **Options:**   * No * Yes |

## FORMULA

Equations as follows (β coefficients listed in table below):

**Men:**

LMen = β x ln(Age) + β x ln(Total cholesterol) + β x ln(HDL cholesterol) + β x ln(Systolic BP) + β x Treated for blood pressure + β x Smoker + β x ln(Age) x ln(Total cholesterol) + β x ln(Age) x Smoker + β x ln(Age) x ln(Age) - 172.300168

PMen = 1 - 0.9402^exp(LMen)

**Women:**

LWomen = β x ln(Age) + β x ln(Total cholesterol) + β x ln(HDL cholesterol) + β x ln(Systolic BP) + β x Treated for blood pressure + β x Smoker + β x ln(Age) x ln(Total cholesterol) + β x ln(Age) x Smoker - 146.5933061

PWomen = 1 - 0.98767^exp(LWomen)

|  |  |  |
| --- | --- | --- |
| **Variable** | **Coefficient (β)** | |
| **Men** | **Women** |
| ln(Age) | 52.00961 | 31.764001 |
| ln(Total cholesterol) | 20.014077 | 22.465206 |
| ln(HDL cholesterol) | -0.905964 | -1.187731 |
| ln(Systolic BP) | 1.305784 | 2.552905 |
| Treated for blood pressure\* | 0.241549 | 0.420251 |
| Smoker\* | 12.096316 | 13.07543 |
| ln(Age) x ln(Total cholesterol) | -4.605038 | -5.060998 |
| ln(Age) x Smoker\*\* | -2.84367 | -2.996945 |
| ln(Age) x ln(Age) | -2.93323 | - |

\*Yes = 1, No = 0.

\*\*Men: if age >70, use ln(70) x Smoker. Women: if age >78, use ln(78) x Smoker.

## FACTS & FIGURES

Interpretation:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Age, years** | **Average 10 year hard\* CHD risk in this patient** | | **Low\*\* 10 year CHD risk in the average patient** | |
| **Women** | **Men** | **Women** | **Men** |
| 30-34 | <1% | 1% | <1% | 2% |
| 35-39 | <1% | 4% | 1% | 3% |
| 40-44 | 1% | 4% | 2% | 4% |
| 45-49 | 2% | 8% | 3% | 4% |
| 50-54 | 3% | 10% | 5% | 6% |
| 55-59 | 7% | 13% | 7% | 7% |
| 60-64 | 8% | 20% | 8% | 9% |
| 65-69 | 8% | 22% | 8% | 11% |
| 70-74 | 11% | 25% | 8% | 14% |
| 74-79 | Data not available | Data not available | Data not available | Data not available |

\*Excluding angina pectoris.

\*\*Low risk was calculated for a person the same age, optimal blood pressure, LDL-C 100-129 mg/dL or cholesterol 160-199 mg/dL, HDL-C 45 mg/dL for men or 55 mg/dL for women, non-smoker, no diabetes.

## EVIDENCE APPRAISAL