Projected incidence of cardiovascular disease in male firefighters based on current risk factor prevalence

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The projected incidence of cardiovascular disease (CVD) in male firefighters was determined by the prevalence of current CVD risk factors and the use of the Framingham Study general cardiovascular risk profile in a probability sample of firefighters from two municipal fire departments. Hypercholesterolemia (60.9%) and obesity (56.0%) were the most prevalent risk factors. Significant age-related trends were observed for the prevalence of all CVD risk factors, except glucose intolerance ($P = .21$) and an abnormal resting electrocardiogram ($P = .07$). The projected incidence of CVD in firefighters did not differ from that of the general male population (relative risk, 1.0; 95% confidence interval, 0.7 to 1.4); similar risk es-

timates were observed in age-specific analyses. These findings are in accord with previous incidence and mortality studies that used circulatory diseases as an end point. The present method should be viewed primarily as a hypothesis-generating tool because of its limitations in assessing cause and effect.

The risk of cardiovascular disease (CVD) in firefighters remains controversial. The physical demands of firefighting, stress, and respiratory exposure to smoke, carbon monoxide, and other pollutants are the most common explanations for observed elevations of CVD risk. However, studies of CVD mortality in firefighters have yielded divergent conclusions,¹⁻⁸ and incidence data from the Normative Aging Study do not suggest excess risk.⁹

The risk of CVD in asymptomatic persons may be estimated by either of two frequently used profiles, the Framingham Study general cardiovascular risk profile (FSGCRP)¹⁰ or the cardiac risk index developed by the Michigan Heart Association (RISKO).¹¹ These profiles were used in a sample of 4066 safety personnel, including firefighters, and they had significant value in identifying men in whom symptomatic coronary heart disease would develop.¹² In addition, the FSGCRP had better predic-

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tive value than RISK0, although a high degree of correlation was observed between the two profiles. The purpose of this study was to determine the prevalence of CVD risk factors in male firefighters and to estimate their risk of having CVD develop by use of the FSGCRP.

Methods

The target population included male firefighters in the Dallas/Fort Worth (Texas) metroplex. The study was based on a probability sample of firefighters from two municipal fire departments that mandated health and fitness assessments during 1985. Firefighters younger than 40 years were assigned to receive health and fitness assessments by a systematic random sampling scheme. Firefighters between 18 and 29 years of age were assessed triennially, whereas firefighters between 30 and 39 years of age were assessed biennially. Firefighters who were 40 years of age or older were assessed annually.

Participation was limited to subjects free of diseases of the circulatory system, other than essential hypertension.¹³ A total of 460 firefighters participated in health and fitness assessments. Two firefighters were excluded from the study because of confirmed disease of the circulatory system. Six firefighters who were 60 years of age or older were also excluded from the study because of the limited size of this age group. The study included the remaining sample consisting of 452 firefighters.

Health and fitness assessments included a comprehensive history and physical examination, anthropometry, serum chemistry and lipid profiles, electrocardiography (ECG), and exercise testing. Anthropometric measurements included height, weight, and a determination of body composition using skinfold measures as described by Jackson and Pollock.¹⁴ A random serum specimen was collected for the chemistry and lipid profiles, which were used to determine the presence of glucose intolerance (glucose >150 mg/dL), hypercholesterolemia (total cholesterol >200 mg/dL), and elevation of the total cholesterol to high-density lipoprotein-cholesterol ratio (TC/HDL >5).

Electrocardiographic abnormalities included left ventricular hypertrophy, ischemic

ST-segment changes, and disturbances of rhythm or conduction.

Exercise testing was based on the modified Balke treadmill protocol,¹⁵ and ECG evaluation of the test followed the criteria established by the American College of Sports Medicine, Indianapolis.¹⁶ Downsloping or horizontal ST-segment depression ≥ 2 mm was required for an abnormal test result. Exercise was continued until the subjects achieved a maximal heart rate or until they were forced to stop exercising because of fatigue or other intervening symptoms.

Since older firefighters were oversampled, age-specific analyses were conducted and age adjustment was used to estimate population parameters. The mean and standard error for each variable were calculated for the following age groups: 18 to 29, 30 to 39, 40 to 49, and 50 to 59 years. Analysis of variance was used to test for a relationship between age and the main effects, and multiple comparisons were performed using the Newman-Keuls procedure.¹⁷

The prevalence of ten cardiovascular risk factors was calculated for each of the four age groups and a χ^2 test for trend was performed using the method described by Mantel.¹⁸ The FSGCRP was used to calculate the risk of a cardiovascular event within 8 years for each subject.¹⁰ Age, total cholesterol level, systolic blood pressure, cigarette smoking history, ECG abnormalities, and glucose intolerance were included as independent variables in the regression equation. The criteria for calculation of CVD risk and the definitions of cardiovascular events paralleled those previously described.¹⁹ The method of risk calculation and the coefficients for the independent variables are summarized in the Appendix. The relative risk (RR) of CVD was calculated using the general male population parameters established in the Framingham Study, and according to the following equation:

$$RR = \frac{\text{Mean FSGCRP Estimate for Male Firefighters}}{\text{FSGCRP Estimate for the General Male Population}}$$

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** In studies using the histamine-induced skin wheal test.

†† A summary of 26 studies relating compliance and dosage schedules of various types of medications showed no significant difference in compliance rates between q.d. and b.i.d. dosing. There was significantly greater compliance with q.d. or b.i.d. dosing compared to t.i.d. or q.i.d. dosing ($p < 0.05$).⁹

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BRIEF SUMMARY

CAUTION: Federal law prohibits dispensing without prescription.

DESCRIPTION

Seldane (terfenadine) is available as tablets for oral administration. Each tablet contains 60 mg terfenadine. Tablets also contain, as inactive ingredients: corn starch, gelatin, lactose, magnesium stearate, and sodium bicarbonate.

INDICATIONS AND USAGE

Seldane is indicated for the relief of symptoms associated with seasonal allergic rhinitis such as sneezing, rhinorrhea, pruritus, and lacrimation.

CONTRAINDICATIONS

Seldane is contraindicated in patients with a known hypersensitivity to terfenadine or any of its ingredients.

PRECAUTIONS

Information for patients

Patients taking Seldane should receive the following information and instructions. Antihistamines are prescribed to reduce allergic symptoms. Patients should be questioned about pregnancy or lactation before starting Seldane therapy, since the drug should be used in pregnancy or lactation only if the potential benefit justifies the potential risk to fetus or baby. Patients should be instructed to take Seldane only as needed and not to exceed the prescribed dose. Patients should also be instructed to store this medication in a tightly closed container in a cool, dry place, away from heat or direct sunlight, and away from children.

Carcinogenesis, mutagenesis, impairment of fertility

Oral doses of terfenadine, corresponding to 63 times the recommended human daily dose, in mice for 18 months or in rats for 24 months, revealed no evidence of tumorigenicity. Microbial and micronucleus test assays with terfenadine have revealed no evidence of mutagenesis.

Reproduction and fertility studies in rats showed no effects on male or female fertility at oral doses of up to 21 times the human daily dose. At 63 times the human daily dose there was a small but significant reduction in implants and at 125 times the human daily dose reduced implants and increased post-implantation losses were observed, which were judged to be secondary to maternal toxicity.

Pregnancy Category C

There was no evidence of animal teratogenicity. Reproduction studies have been performed in rats at doses 63 times and 125 times the human daily dose and have revealed decreased pup weight gain and survival when terfenadine was administered throughout pregnancy and lactation. There are no adequate and well-controlled studies in pregnant women. Seldane should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic effects

Seldane is not recommended for nursing women. The drug has caused decreased pup weight gain and survival in rats given doses 63 times and 125 times the human daily dose throughout pregnancy and lactation. Effects on pups exposed to Seldane only during lactation are not known, and there are no adequate and well-controlled studies in women during lactation.

Pediatric use

Safety and effectiveness of Seldane in children below the age of 12 years have not been established.

General

Consideration should be given to potential anticholinergic (drying) effects in patients with lower airway disease, including asthma.

ADVERSE REACTIONS

Experience from clinical studies, including both controlled and uncontrolled studies involving more than 2,400 patients who received Seldane, provides information on adverse experience incidence for periods of a few days up to six months. The usual dose in these studies was 60 mg twice daily, but in a small number of patients, the dose was as low as 20 mg twice a day, or as high as 600 mg daily.

In controlled clinical studies using the recommended dose of 60 mg b.i.d., the incidence of reported

adverse effects in patients receiving Seldane was similar to that reported in patients receiving placebo. (See Table below.)

ADVERSE EVENTS REPORTED IN CLINICAL TRIALS

Adverse Event	Percent of Patients Reporting			
	Controlled Studies* Seldane N = 781	Placebo N = 665	Control N = 626**	All Clinical Studies** Seldane N = 2462
Central Nervous System				
Drowsiness	9.0	8.1	18.1	8.5
Headache	6.3	7.4	3.8	15.8
Fatigue	2.9	0.9	5.8	4.5
Dizziness	1.4	1.1	1.0	1.5
Nervousness	0.9	0.2	0.6	1.7
Weakness	0.9	0.6	0.2	0.6
Appetite Increase	0.6	0.0	0.0	0.5
Gastrointestinal System				
Gastrointestinal Distress				
(Abdominal distress,				
Nausea, Vomiting,				
Change in Bowel habits)	4.6	3.0	2.7	7.6
Eye, Ear, Nose, and Throat				
Dry Mouth/ Nose/Throat	2.3	1.8	3.5	4.8
Cough	0.9	0.2	0.5	2.5
Sore Throat	0.5	0.3	0.5	3.2
Epistaxis	0.0	0.8	0.2	0.7
Skin				
Eruption (including rash				
and urticaria) or itching	1.0	1.7	1.4	1.6

*Duration of treatment in "CONTROLLED STUDIES" was usually 7-14 DAYS.

**Duration of treatment in "ALL CLINICAL STUDIES" was up to 6 months.

***CONTROL DRUGS: Chlorpheniramine (291 patients), d-Chlorpheniramine (189 patients), Clemastine (146 patients)

In addition to the more frequent side effects reported in clinical trials (See Table), adverse effects have been reported at a lower incidence in clinical trials and/or spontaneously during marketing of Seldane that warrant listing as possibly associated with drug administration. These include: alopecia, (hair loss or thinning), anaphylaxis, angioedema, arrhythmia (including ventricular tachyarrhythmia), bronchospasm, confusion, depression, galactorrhea, hypotension, insomnia, menstrual disorders (including dysmenorrhea), musculoskeletal symptoms, nightmares, palpitation, paresthesia, photosensitivity, prolonged QT interval, seizures, sweating, syncope, tachycardia, tremor, urinary frequency, and visual disturbances. In clinical trials, several instances of mild, or in one case, moderate transaminase elevations were seen in patients receiving Seldane. Mild elevations were also seen in placebo treated patients. Marketing experiences include isolated reports of jaundice, cholestatic hepatitis, and hepatitis in most cases available information is incomplete. In neither the clinical trials nor marketing experience is a causal relationship of liver abnormalities to Seldane use clear.

OVERDOSAGE

Information concerning possible overdosage and its treatment appears in Full Prescribing Information.

DOSAGE AND ADMINISTRATION

The usual dosage for adults and children 12 years and older is 60 mg (1 tablet) twice daily.

Product Information as of June, 1988

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Subsidiary of The Dow Chemical Company
Cincinnati, Ohio 45215, U.S.A.

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The 95% confidence intervals were estimated using the standard error of the FSGCRP estimate for firefighters.

Results

As shown in Table 1, age-related trends were evident for most variables. The younger firefighters (aged 18 to 29 years) were more likely to have been nonwhite and single than their older counterparts. In addition, firefighters younger than 40 years also had more years of formal education. Anthropometric data revealed no significant height differences among the four age groups; however, the youngest group was significantly lower in body weight than the other three groups. Body fat percentage was considerably sensitive to age, as significant elevations were noted for each successive age group. Systolic blood pressure, diastolic blood pressure, total cholesterol level, the TC/HDL ratio, and glucose concentration also demonstrated significant direct relationships with age.

The prevalence rates of CVD risk factors presented in Table 2 reflect many of the characteristics shown in Table 1. In general, age-related linear trends were evident for all CVD risk factors except glucose intolerance ($P = .21$) and an abnormal resting ECG ($P = .07$). Hypercholesterolemia, elevation of the TC/HDL ratio, and cigarette smoking were most prevalent in the 40- to 49-year-old age group, while the remaining risk factors were most prevalent in the 50- to 59-year-old age group.

The relative risk of CVD developing in firefighters, based on the FSGCRP, is presented in Table 3. Neither the overall nor the age-specific relative risks were significantly different from unity. Relative risk was not estimated for the 18- to 29- and 30- to 39-year-old age groups, because the low incidence of CVD

Table 1
Characteristics of Participating Firefighters*

Variable	Age, yr [†]			
	18-29 (n = 50)	30-39 (n = 84)	40-49 (n = 209)	50-59 (n = 109)
Race (% nonwhite)	32.0 (a)	13.1 (b)	13.9 (b)	8.3 (b)
Marital status (% unmarried)	36.0 (a)	11.9 (b)	8.6 (b)	7.3 (b)
Education, yr	13.7(0.2) (a)	14.1(0.2) (a)	13.0(0.1) (b)	12.6(0.2) (b)
Height, cm	178.9(1.1) (a)	180.4(0.6) (a)	179.4(0.4) (a)	178.9(0.5) (a)
Weight, kg	78.7(2.1) (a)	84.4(1.2) (b)	84.8(0.8) (b)	86.5(1.1) (b)
Body fat percentage	13.7(0.9) (a)	17.0(0.5) (b)	19.4(0.3) (c)	21.9(0.5) (d)
Systolic blood pressure, mm Hg	122.5(1.5) (a)	123.6(1.2) (a)	124.8(0.9) (a)	130.3(1.3) (b)
Diastolic blood pressure, mm Hg	76.4(1.3) (a)	79.4(0.9) (b)	80.6(0.6) (b)	83.8(0.8) (c)
Total cholesterol level, mg/dL	188.8(4.7) (a)	216.3(4.9) (b)	234.7(3.1) (c)	235.2(4.2) (c)
Total cholesterol–high-density lipoprotein–cholesterol ratio	4.2(0.1) (a)	5.1(0.1) (b)	5.8(0.1) (c)	5.7(0.1) (c)
Glucose, mg/dL	103.1(1.3) (a)	104.6(2.0) (a)	109.4(1.3) (ab)	113.5(2.3) (b)

*Table entries represent a percentage or a mean with the standard error in parentheses.

†Age groups with entries that were not significantly different for a variable at the .05 level are denoted by similar letters.

at those ages precludes a precise determination of risk in samples of our size.

Discussion

Strong age-related trends were observed for all variables (Table 1) and CVD risk factors (Table 2), with the exception of height, glucose intolerance, and an abnormal resting ECG. The risk of CVD developing in male firefighters, as estimated by the FSGCRP, was not significantly different from that of the general male population (Table 3). This suggests that the incidence of CVD in our sample of firefighters should not be excessive in the following 8 years. This projection is concordant with the results of a previous investigation that stud-

ied the 10-year incidence of coronary heart disease and myocardial infarction in firefighters.⁹

A comparison of our results with those from several previous investigations (Table 4) suggests that the FSGCRP is useful in estimating future CVD incidence and mortality in large occupational cohorts. Our findings were consistent with the results of most investigations, although those studies that included renal diseases as an end point, along with cardiovascular diseases,^{1,2,4} demonstrated higher relative risks. This discrepancy in end points may account for the inconsistency with our results, since the FSGCRP does not include renal diseases as cardiovascular events. It is thus possible that the elevated risk estimates observed in these studies may have been attributable to an excessive risk of renal diseases in firefighters. A direct comparison with these

investigations is further limited since nephritis was a more common cause of death during the time period on which their studies were based.

Overall, 8.6% of firefighters in our sample had abnormal maximal exercise tests. Although tremendous diversity exists in exercise testing protocol and interpretation, two large studies of maximal exercise test results in asymptomatic men used methods similar to ours.^{20,21} Bruce and associates²⁰ found abnormal exercise test results in 11.1% of a cohort of 2365 combined industrial and clinical subjects. Froelicher and coworkers²¹ examined a cohort of 1390 air crewmen and found 10.1% of the exercise test results to be abnormal. The lower prevalence of abnormal exercise test results in the latter group may be attributed to the larger proportion of younger subjects. The

Table 2
Prevalence* of Cardiovascular Disease Risk Factors in Firefighters

Risk Factor	Overall†	Age, yr				P‡
		18-29 (n = 50)	30-39 (n = 84)	40-49 (n = 209)	50-59 (n = 109)	
Systolic hypertension (systolic blood pressure >140 mm Hg)	6.2	0.0(0.0)	3.6(2.0)	7.2(1.8)	20.2(3.9)	.02
Diastolic hypertension (diastolic blood pressure >90 mm Hg)	8.7	4.0(2.8)	8.3(3.0)	8.1(1.9)	18.3(3.7)	.005
Hypertension (either systolic or diastolic hypertension)	12.1	4.0(2.8)	11.9(3.6)	12.0(2.3)	26.6(4.4)	<.001
Obesity (body fat >17%)	56.0	32.0(6.7)	51.2(5.5)	69.4(3.2)	83.5(3.6)	<.001
Hypercholesterolemia (serum cholesterol >200 mg/dL)	60.9	30.0(6.5)	63.1(5.3)	80.4(2.8)	76.1(4.1)	<.001
Elevated TC/HDL ratio (total cholesterol/high-density lipoprotein-cholesterol ratio >5)	46.6	16.0(5.2)	51.2(5.5)	63.2(3.3)	61.5(4.7)	<.001
Glucose intolerance (random glucose concentration >150 mg/dL)	1.3	0.0(0.0)	1.2(1.2)	1.9(1.0)	2.8(1.6)	.21
Current smoker	18.3	8.0(3.9)	13.1(3.7)	30.1(3.2)	25.7(4.2)	.002
Abnormal resting electrocardiogram	3.7	4.0(2.8)	1.2(1.2)	3.8(1.3)	8.3(2.6)	.07
Abnormal exercise test	5.3	0.0(0.0)	0.0(0.0)	9.1(2.0)	18.3(3.7)	<.001

*Prevalence is expressed as a percentage with the standard error in parentheses.

†Prevalence of risk factors in two municipal fire departments was estimated by age adjustment using age-specific prevalence rates, and the appropriate weighting factors.

‡Chi-square test for age-related trend in risk factor prevalence.¹⁸

Table 3 Relative Risk of Cardiovascular Disease in Firefighters*				
Age, yr	FSGCRP estimate for CVD in firefighters	FSGCRP parameters for CVD in the general population ¹⁰	Relative risk	95% Confidence interval
18-59 (n = 452)	0.067	0.064	1.0	0.7-1.4
40-49 (n = 209)	0.065	0.075	0.9	0.4-1.3
50-59 (n = 109)	0.139	0.159	0.9	0.4-1.3

*FSGCRP indicates Framingham Study general cardiovascular risk profile; CVD, cardiovascular disease.

age distribution of the cohort examined by Bruce and associates²⁰ closely resembled that of our sample of firefighters. Thus, exercise testing further suggests that firefighters are not at increased risk of coronary heart disease.

Based on our observations, it appears unlikely that occupational factors such as physical exertion, stress, or respiratory exposures adversely affect the prevalence of CVD risk factors, and ultimately, the incidence of CVD in firefighters. If firefighters are truly at increased risk of CVD mortality, as suggested by some previous findings,^{1,2,4} it is possible that other poorly delineated factors may account for the excess risk. The concept of a "clinical illness promotion factor" has been advanced by Evans²² to explain why only in certain persons does clinical illness develop, while in others, illness remains at a subclinical level.

Despite our failure to observe an elevated CVD risk in firefighters as a group, we suggest that physicians or other healthcare professionals dealing with occupational cohorts such as firefighters counsel individual members regarding risk factors for CVD. Our occupational health program consists of physician advice delivered immediately following the health and fitness assessment and a written series of recommendations that are subsequently distributed and discussed by another member of our health-promotion team about 2 weeks later. This follow-up session allows us to address any problems that may occur in the implementation of our recommendations. Since the identification and reversal of multiple risk factors is essential in a program aimed

at reducing the incidence of CVD, our staff includes not only physicians, but also departmental faculty in the areas of health promotion, nutrition, and exercise physiology.

Several limitations of our study should be addressed. The firefighters in this study represent a highly selected group that was submitted to strict entrance examinations, periodic health and fitness assessment and risk-factor counseling. Although the prevalence rates of CVD risk factors, such as hypercholesterolemia and obesity, remained high (Table 2), they may have been higher in the absence of such interventions. Therefore, the relative risks observed in Table 3 may actually reflect a combination of two opposing forces: one, the protective effects of selection, periodic evaluation, and counseling, and the other, the potentially detrimental effects of firefighting on the cardiovascular system. Furthermore, information was not available for firefighters who resigned or who were dismissed from their positions; these firefighters may have been at higher risk of CVD than the participants (only two participants had confirmed CVD; however, 39 had abnormal exercise test results).

The use of the general male population parameters for the FSGCRP was not entirely appropriate in calculating the relative risk of CVD in this occupational study. A more useful comparison would involve other occupational cohorts; however, information about the FSGCRP in such cohorts is lacking. In this regard, the comparison based on exercise testing was more appropriate since an industrial cohort was included in one study²⁰; however,

our conclusions remain unaltered when based on the results of exercise testing.

A further limitation of our study was its cross-sectional nature. Such studies are not especially useful in the assessment of causality, although this was not an important issue in our study, because an association between fire-fighting and CVD risk was not observed. An extension of the present study includes measurement of the longitudinal changes in the

FSGCRP in firefighters as compared with changes in the general population or a more suitable occupational cohort.

Summary

By use of the present method, the projected incidence of CVD in male firefighters did not differ from that of the general male population. Our findings are in accord with those of several previous investigators^{2,3,5-9} who meas-

Table 4
Comparison of Present Results With the Findings of Previous Investigations of Cardiovascular Disease Risk in Firefighters*

End point	Risk estimate	Significance test		Time period studied	Reference
		95% CI	P		
Prevalence (CVDRF)	1.0 (RR)	0.7-1.4	NS	1985	Present study
Incidence (CHD)	0.5 (RR)	0.2-1.4	.19	1963-1973	Dibbs et al ⁹
Incidence (MI)	0.5 (RR)	0.1-1.9	.31	1963-1973	Dibbs et al ⁹
Mortality (CD)	0.9 (SMR)	...	...	1915-1975	Musk et al ⁶
Mortality (CD)	0.8 (SMR)	0.6-1.0	...	1939-1978	Eliopoulos et al ⁷
Mortality (CD)	1.6 (SMR)	...	NS	1950	Guralnick ⁴
Mortality (CD)	1.0 (PMR)	...	NS	1950-1971	Milham ³
Mortality (CD)	1.1 (PMR)	...	NS	1974-1980	Feuer and Rosenman ⁸
Mortality (CHD)	1.1 (PMR)	...	...	1937-1939	Dublin and Vane ²
Mortality (CHD)	1.1 (PMR)	...	NS	1967	Decoufle et al ⁵
Mortality (CRD)	1.4 (SMR)	...	<.001	1921-1953	Mastromatteo ¹
Mortality (CRD)	1.3 (PMR)	...	...	1937-1939	Dublin and Vane ²
Mortality (CRD)	1.6 (SMR)	...	NS	1950	Guralnick ⁴

*CI indicates confidence interval; CVDRF, cardiovascular disease risk factors; CHD, coronary heart disease; MI, myocardial infarction; CD, circulatory disease; CRD, cardiovascular-renal disease; RR, relative risk; SMR, standardized mortality ratio; PMR, proportionate mortality ratio; and NS, not significant at the .05 level.

†Investigations that did not report significance tests are denoted by ellipses.

ured incidence of and mortality from CVD. Although our method has limitations, it may be useful for generating hypotheses about CVD risk in other occupational cohorts, which may then be studied by more rigorous epidemiologic methods.

See appendix on page 1302.

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Appendix

The probability (P) that CVD will occur within 8 years in a male firefighter initially free of CVD is given by the following equation:

$$P = \frac{1}{1 + e^{-C}}$$

Where C is calculated using the following regression equation:

$$\begin{aligned} C = & 0.3743307 (\text{age}) - 0.0021165(\text{age})^2 + 0.0258102 (\text{serum cholesterol concentration}) \\ & + 0.0156953 (\text{systolic blood pressure}) \\ & + 0.5583013 (\text{cigarette smoking}^*) + 1.0529656 (\text{left ventricular hypertrophy by ECG}^*) \\ & + 0.6020336 (\text{glucose intolerance}^*) \\ & - 0.0003619 (\text{serum cholesterol concentration} \times \text{age}) - 19.7709560 \end{aligned}$$

* Denotes a dichotomous variable (yes, 1; no, 0).

For a more detailed description of the FSGCRP, see Kannel et al¹⁰ and Shurtleff.¹⁹