

Supplementary Table 1. Components comprising the Framingham Offspring, Cambridge, and Finnish diabetes risk scores

Study	Year	Country	Age	Sex	PSHD	BMI	WC	SBP	DBP	AHT	Steroid	HHG	Smoking	PA	FV	FG	HDL	TG
Framingham	2007	USA	X	X	X	X		X	X	X					X	X	X	
Cambridge	2000	UK	X	X	X	X				X	X		X					
Finnish	2003	Finland	X			X	X			X		X		X	X			

PSHD: parent/sibling history of diabetes; BMI: body mass index; WC: waist circumference; SBP: systolic blood pressure; AHT: antihypertensive treatment; HHG: history of high blood glucose; PA: physical activity < 4 h/wks; FV: daily consumption of fruits and vegetables; FG: fasting glucose; TC: total cholesterol; HDL-C: HDL-cholesterol; TG: triglycerides.

Supplementary Table 2. Odds ratio (95% confidence interval) for the association between individual components of the diabetes risk scores and frailty (n=2,707)

	Adjusted for sex	Fully adjusted ^a
Age, years	1.03 (1.01, 1.04)	1.04 (1.03, 1.06)
Sex		
Male	-	1 (ref)
Female	-	1.29 (1.07, 1.56)
Parental/sibling history of diabetes		
No	1 (ref)	1 (ref)
Yes	0.95 (0.74, 1.22)	0.85 (0.65, 1.10)
BMI, kg/m ²		
<25	1 (ref)	1 (ref)
25-30	1.02 (0.87, 1.21)	0.94 (0.76, 1.17)
≥30	1.42 (1.12, 1.80)	1.10 (0.76, 1.58)
Waist circumference, cm		
Men: <94 / women: <80	1 (ref)	1 (ref)
Men: [94-102[/ women: [80-88[1.03 (0.86, 1.24)	0.99 (0.79, 1.25)
Men: ≥102 / women: ≥ 88	1.44 (1.18, 1.76)	1.25 (0.91, 1.71)
Blood pressure (≥ 130/85 mm Hg) or hypertension therapy use		
No	1 (ref)	1 (ref)
Yes	1.25 (1.06, 1.46)	1.09 (0.92, 1.29)
Corticoid treatment		
No	1 (ref)	1 (ref)
Yes	1.27 (0.85, 1.91)	1.22 (0.80, 1.85)
Smoking status		
Non-smoker	1 (ref)	1 (ref)
Ex-smoker	0.87 (0.74, 1.03)	0.82 (0.69, 0.97)
Current smoker	1.35 (1.02, 1.79)	1.17 (0.87, 1.57)
Low physical activity (< 4 h/week)		
No	1 (ref)	1 (ref)
Yes	2.41 (2.02, 2.87)	2.49 (2.08, 2.98)
Daily consumption of fruits and vegetables		
No	1.57 (1.32, 1.87)	1.51 (1.26, 1.82)
Yes	1 (ref)	1 (ref)
Fasting glucose, 100-126 mg/dL		
No	1 (ref)	1 (ref)
Yes	1.06 (0.86, 1.32)	0.99 (0.79, 1.24)

HDL cholesterol, mg/dL			
Men: < 40 / women: < 50	1.22 (0.99, 1.51)	1.08 (0.86, 1.36)	
Men: ≥ 40 / women: ≥ 50	1 (ref)		1 (ref)
Triglycerides level ≥ 100 mg/dL			
No	1 (ref)		1 (ref)
Yes	1.15 (0.96, 1.39)	0.98 (0.80, 1.21)	

BMI: body mass index; OR: odds ratio; CI: confidence interval.

^a Model includes all predictors in addition to sex.

Supplementary Table 3. Sensitivity analyses: odds ratio (95% CI) per one standard deviation increment in score using three diabetes risk algorithms for future frailty

	Main analysis	Sensitivity analysis 1	Sensitivity analysis 2	Sensitivity analysis 3	Sensitivity analysis 4
	Study sample	Study sample	Study sample	Fried's frailty scale	Multiple imputation
Diabetes risk scores	(n=2,707)	excluding incident diabetes cases (n=2,466)	including prevalent diabetes cases (n=2,824)	excluding physical activity component (n=2,697)	(n=6,510)
Framingham Offspring risk score	1.05 (0.98, 1.14)	1.07 (0.97, 1.18)	1.09 (1.01, 1.17)	1.06 (0.97, 1.15)	1.11 (1.05, 1.18)
Cambridge risk score	1.18 (1.09, 1.27)	1.14 (1.04, 1.23)	1.18 (1.09, 1.27)	1.23 (1.13, 1.33)	1.17 (1.10, 1.25)
Finnish risk score	1.27 (1.17, 1.37)	1.25 (1.14, 1.36)	1.26 (1.16, 1.37)	1.28 (1.18, 1.39)	1.24 (1.16, 1.34)

Supplementary Table 4. Association between diabetes risk scores components mutually adjusted for diabetes risk scores and frailty

	Diabetes risk scores	Odds ratio (95% CI)
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Framingham diabetes score		
Unadjusted		1.05 (0.98, 1.14)
Adjusted for		
Age		1.05 (0.97, 1.13)
Sex		1.06 (0.98, 1.14)
Parental history of diabetes		1.05 (0.97, 1.14)
BMI		1.02 (0.94, 1.11)
Blood pressure \geq 130/85 mmHg or receiving therapy		1.03 (0.95, 1.11)
HDL-cholesterol		1.03 (0.95, 1.12)
Triglycerides		1.05 (0.97, 1.13)
Fasting glucose		1.09 (0.98, 1.21)
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Cambridge diabetes score		
Unadjusted		1.18 (1.09, 1.27)
Adjusted for		
Age		1.14 (1.05, 1.23)
Sex		1.22 (1.13, 1.31)
Parental/sibling history of diabetes		1.19 (1.10, 1.28)
BMI		1.18 (1.07, 1.30)
Antihypertensive therapy		1.16 (1.06, 1.26)
Corticosteroid therapy		1.18 (1.09, 1.28)
Smoking		1.16 (1.07, 1.25)

Finnish diabetes score

Unadjusted 1.27 (1.17, 1.37)

Adjusted for

Age 1.25 (1.15, 1.35)

BMI 1.45 (1.28, 1.63)

Waist circumference 1.40 (1.26, 1.54)

Antihypertensive therapy 1.27 (1.17, 1.38)

Physical activity < 4h/week 1.20 (1.11, 1.30)

Daily consumption of fruits and vegetables 1.26 (1.16, 1.36)
