

Table 1. Baseline characteristics and incident diabetes in study participants (n=2,707)

	All	Frailty status at follow-up		P-value ^a
		Not frail	Pre-frail/frail	
Numbers	2,707	1,616	1,091	
Age, years (SD)	55.0 (5.9)	54.6 (5.6)	55.6 (6.2)	0.0005
Sex, n (%)				
Male	1,952 (72.1)	1,228 (76.0)	724 (66.4)	<0.0001
Female	755 (27.9)	388 (24.0)	367 (33.6)	
Parental or siblings history of diabetes, n (%)				
No	2,419 (89.4)	1,443 (89.3)	976 (89.5)	0.89
Yes	288 (10.6)	173 (10.7)	115 (10.5)	
Body mass index, kg/m ²				0.002
<25	1,199 (44.3)	730 (45.2)	469 (43.0)	
[25-30[1,145 (42.3)	700 (43.3)	445 (40.8)	
≥30	363 (13.4)	186 (11.5)	177 (16.2)	
Waist circumference, cm				<0.0001
Men: <94 / women: <80	1,414 (52.2)	879 (54.4)	535 (49.0)	
Men: [94-102[/ women: [80-88[719 (26.6)	442 (27.4)	277 (25.4)	
Men: ≥102 / women: ≥ 88	574 (21.2)	295 (18.2)	279 (25.6)	
Blood pressure ≥130/85 mm Hg or hypertension therapy, n (%)				
No	1,629 (60.2)	1,005 (62.2)	624 (57.2)	0.009
Yes	1,078 (39.8)	611 (37.8)	467 (42.8)	
Corticosteroid treatment, n (%)				
No	2,608 (96.3)	1,562 (96.7)	1,046 (95.9)	0.29
Yes	99 (3.7)	54 (3.3)	45 (4.1)	
Smoking status, n (%)				
Non-smoker	1,514 (55.9)	891 (55.1)	623 (57.1)	0.002
Ex-smoker	967 (35.7)	610 (37.8)	357 (32.7)	
Current smoker	226 (13.0)	115 (7.1)	111 (10.2)	
Low physical activity < 4 h/week, n (%)				
No	968 (35.8)	711 (44.0)	257 (23.6)	<0.0001
Yes	1,739 (64.2)	905 (56.0)	834 (76.4)	
Daily consumption of fruits and vegetables, n (%)				
No	709 (26.2)	373 (23.1)	336 (30.8)	<0.0001
Yes	1,998 (73.8)	1,243 (76.9)	755 (69.2)	
Fasting glucose level 100-126 mg/dL, n (%)				
No	2,292 (84.7)	1,370 (84.8)	922 (84.5)	0.85

Yes	415 (15.3)	246 (15.2)	169 (15.5)	
HDL cholesterol, mg/dL				0.06
Men: < 40 / women: < 50	421 (15.5)	234 (14.5)	187 (17.1)	
Men: ≥ 40 / women: ≥ 50	2,286 (84.5)	1382 (85.5)	904 (82.9)	
Triglycerides level ≥100 mg/dL				0.45
No	2,109 (77.9)	1,267 (78.4)	842 (77.2)	
Yes	598 (22.1)	349 (21.6)	249 (22.8)	
Incident diabetes at follow-up, n (%)				
No	2,466 (91.1)	1,497 (92.6)	969 (88.8)	0.0006
Yes	241 (8.9)	119 (7.4)	122 (11.2)	

SD: standard deviation.

^a P for heterogeneity based on Chi-square test or Wilcoxon signed-rank test.

Table 2. Comparison of performances of diabetes risk scores^a in the prediction of future frailty and diabetes

Difference (Δ) in OR ^b (95% CI) ^c for frailty		
	Framingham risk score	Cambridge risk score
	OR=1.05 (0.98, 1.14)	OR=1.18 (1.09, 1.27)
Framingham risk score	—	—
OR=1.05 (0.98, 1.14)		
Cambridge risk score		—
OR=1.18 (1.09, 1.27)	$\Delta = 0.12 (0.02, 0.22)$	
Finnish risk score		
OR=1.27 (1.17, 1.37)	$\Delta = 0.22 (0.11, 0.33)$	$\Delta = 0.09 (0.02, 0.17)$
Difference (Δ) in OR (95% CI) ^a for diabetes		
	Framingham risk score	Cambridge risk score
	OR=1.72 (1.56, 1.90)	1.69 (1.52, 1.88)
Framingham risk score	—	—
OR=1.72 (1.56, 1.90)		
Cambridge risk score		—
OR=1.69 (1.52, 1.88)	$\Delta = -0.03 (-0.28, 0.21)$	
Finnish risk score		
OR=1.52 (1.38, 1.68)	$\Delta = -0.20 (-0.46, 0.01)$	$\Delta = -0.17 (-0.32, -0.05)$

^a A 1-SD increase (disadvantage) in the Framingham and Finnish scores was associated with a 4% increase in the probability of developing diabetes. For the Cambridge score, it represented 18%.

^b ORs are per one standard deviation increment in score.

^c Bias-corrected and accelerated bootstrap (BCa) 95% confidence interval.

Table 3. Comparisons of the areas under the ROC curves (AUC) and their 95% confidence intervals (CI) in the prediction of frailty and diabetes

	Frail and pre-frail		Diabetes	
	AUC (95% CI)	Δ (95% CI) ^a	AUC (95% CI)	Δ (95% CI) ^a
Framingham risk score	0.531 (0.509, 0.553)	0.044 (0.022, 0.066)	0.760 (0.727, 0.792)	Ref
Cambridge risk score	0.535 (0.513, 0.557)	0.040 (0.023, 0.057)	0.699 (0.666, 0.732)	0.061 (0.025, 0.097)
Finnish risk score	0.575 (0.553, 0.597)	Ref	0.684 (0.649, 0.718)	0.076 (0.040, 0.112)

^a Difference in the areas under the curves (AUC).