SUPPLEMENTAL MATERIAL

TABLE S1. Independent association of waveform parameters with MACEs – Sensitivity analyses

Parameter	Main analysis	Adjustment for DBP	Without HR < 60 (n= 14,897)	Without prior cardiovascular disease (n= 15,113)	With reduced spline use for confounder adjustment
cPP	1.17 (1.08, 1.26)	1.13 (1.08, 1.18)	1.15 (1.05, 1.25)	1.15 (1.05, 1.27)	1.17 (1.09, 1.26)
AIx@75	1.05 (1.00, 1.11)	1.07 (1.01, 1.12)	1.08 (1.02, 1.14)	1.05 (0.99, 1.12)	1.05 (1.00, 1.11)
Pf	1.12 (1.04, 1.20)	1.11 (1.06, 1.15)	1.11 (1.03, 1.20)	1.12 (1.02, 1.22)	1.13 (1.05, 1.21)
Pb	1.11 (1.03, 1.19)	1.12 (1.06, 1.17)	1.11 (1.02, 1.20)	1.12 (1.03, 1.23)	1.11 (1.04, 1.19)
RM	1.03 (0.97, 1.08)	1.03 (0.98, 1.09)	1.03 (0.97, 1.09)	1.03 (0.97, 1.10)	1.03 (0.97, 1.08)

Associations are presented as *hazard ratios (95% confidence interval)* for one standard deviation increase from the fully adjusted model (age, sex, race, height, weight, smoking, diabetes, total cholesterol, high-density-lipoprotein levels, estimated glomerular filtration rate, heart rate, statin use, prior cardiovascular disease, antihypertensive drug use and systolic blood pressure).

Adjustment for DBP was conducted by replacing SBP by DBP.

Reduced spline use was conducted by only using splines for confounders with a significant or near significant ($p < 0.10$) non-linear term in any of the multiply imputed datasets.

AIx@75, Augmentation index at 75 beats per minute; cPP, Central pulse pressure; DBP, Diastolic blood pressure; HR, Hazard ratio; MACE, Major adverse cardiovascular event; Pb, Backward pressure; Pf, Forward pressure; PWA, Pulse wave analysis; RM, Reflection magnitude; SBP, Systolic blood pressure; WSA, Wave separation analysis.

TABLE S2. Predictive value of waveform parameters for MACEs – Sensitivity analysis with ASCVD probabilities treated non-linearly as splines

Parameters	ASCVD-adjusted		Δ C-index (%)	Continuous NRI	IDI (%)
	HR (95% CI)	LR Test			
PWA parameters					
cPP	1.06 (1.02, 1.10)	0.005	0.03	0.060	0.08
AIx@75	1.10 (1.05, 1.15)	< 0.001	0.18	0.069	0.10
WSA parameters					
Pf	1.03 (0.99, 1.08)	0.113	-0.01	0.029	0.04
Pb	1.06 (1.02, 1.10)	0.002	0.05	0.059	0.08
RM	1.08 (1.03, 1.12)	< 0.001	0.13	0.057	0.07

Hazard ratios are presented for one standard deviation increase. Likelihood ratio tests are presented as the maximal p-value observed across the ten multiply imputed datasets.

AIx@75, Augmentation index at 75 beats per minute; CI, Confidence interval; cPP, Central pulse pressure; HR, Hazard ratio; MACE, Major adverse cardiovascular event; Pb, Backward pressure; Pf, Forward pressure; PWA, Pulse wave analysis; RM, Reflection magnitude; WSA, Wave separation analysis.

TABLE S3. Interaction between waveform parameters and baseline ASCVD risk

Parameter	*p*-value	ASCVD = 2.5%	ASCVD = 7.5%	ASCVD = 15%	ASCVD = 25%
cPP	0.066	1.01 (0.94, 1.08)	1.05 (1.00, 1.09)#	1.07 (1.03, 1.12)#	1.09 (1.04, 1.15)#
AIx@75	0.024#	1.16 (1.09, 1.23)#	1.10 (1.05, 1.14)#	1.06 (1.00, 1.11)	1.03 (0.95, 1.11)
Pf	< 0.001#	0.94 (0.88, 1.01)	1.01 (0.96, 1.05)	1.05 (1.01, 1.10)#	1.09 (1.04, 1.14)#
Pb	0.355	1.04 (0.97, 1.11)	1.06 (1.02, 1.10)#	1.07 (1.03, 1.12)#	1.08 (1.03, 1.14)#
RM	0.003#	1.16 (1.09, 1.24)#	1.08 (1.04, 1.13)#	1.03 (0.98, 1.09)	1.00 (0.93, 1.06)

Associations are presented as *hazard ratios (95% confidence interval)* for one standard deviation increase after adjustment for the ASCVD score. *P-values* were generated using the interaction term between baseline ASCVD risk and each parameter.
# Indicates a *p*-value < 0.05 after correction with the Benjamini-Hochberg procedure
AIx@75, Augmentation index at 75 beats per minute; ASCVD, Atherosclerotic cardiovascular disease; cPP, Central pulse pressure; Pb, Backward pressure; Pf, Forward pressure; PWA, Pulse wave analysis; RM, Reflection magnitude; WSA, Wave separation analysis.

TABLE S4. Predictive value of waveform parameters for MACEs in each ASCVD risk strata

Parameter	Global	Low risk < 5% (n=9,374)	Intermediate risk 5-20% (n=7,087)	High risk ≥ 20% (n=1,100)
Hazard ratio				
cPP	1.06 (1.02, 1.08)	1.05 (0.96, 1.16)	1.04 (0.99, 1.10)	1.08 (1.00, 1.17)
AIx@75	1.10 (1.06, 1.15)	1.15 (1.07, 1.24)[#]	1.08 (1.02, 1.14)	1.03 (0.91, 1.17)
Pf	1.04 (1.00, 1.08)	0.96 (0.86, 1.06)	1.03 (0.97, 1.09)	1.09 (1.01, 1.18)
Pb	1.07 (1.03, 1.11)	1.08 (0.99, 1.19)	1.05 (1.00, 1.10)	1.07 (0.99, 1.15)
RM	1.08 (1.03, 1.12)	1.15 (1.06, 1.24)[#]	1.06 (1.00, 1.12)	1.01 (0.91, 1.12)
Δ C-index (%)				
cPP	0.03	0.00	0.09	0.57
AIx@75	0.19	1.12	0.34	0.26
Pf	-0.08	0.04	0.02	0.52
Pb	0.05	0.13	0.12	0.58
RM	0.12	0.85	0.22	0.05
Continuous NRI				
cPP	0.006	0.047	0.076	0.061
AIx@75	0.066	0.155	0.063	0.006
Pf	-0.029	-0.005	0.030	0.106
Pb	0.016	0.037	0.079	0.057
RM	0.053	0.095	0.047	0.010
IDI (%)				
cPP	0.10	0.01	0.04	0.43
AIx@75	0.11	0.17	0.07	0.02
Pf	0.05	0.01	0.02	0.45
Pb	0.10	0.04	0.05	0.32
RM	0.07	0.14	0.06	0.00

# Indicates a likelihood ratio *p*-value < 0.05 after correction with the Benjamini-Hochberg procedure
AIx@75, Augmentation index at 75 beats per minute; ASCVD, Atherosclerotic cardiovascular disease; cPP, Central pulse pressure; Pb, Backward pressure; Pf, Forward pressure; PWA, Pulse wave analysis; Rm, Reflection magnitude; WSA, Wave separation analysis.

TABLE S5. Reclassification tables with and without cPP at the tenth-year follow-up

A. All individuals

		With cPP		
Without cPP		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	9,217	151	0
	Intermediate risk	259	6,708	125
	High risk	0	112	989

B. Individuals with MACEs

		With cPP		
Without cPP		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	643	24	0
	Intermediate risk	33	1,168	37
	High risk	0	29	330

C. Individuals without MACEs

		With cPP		
Without cPP		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	6,158	94	0
	Intermediate risk	176	4,130	65
	High risk	0	59	493

TABLE S6. Reclassification tables with and without AIx@75 at the tenth-year follow-up

A. All individuals

		With AIx@75		
		Low risk	***Intermediate risk***	***High risk***
Without AIx@75	***Low risk***	9,068	300	0
	Intermediate risk	422	6,514	156
	High risk	0	123	978

B. Individuals with MACEs

		With AIx@75		
		Low risk	***Intermediate risk***	***High risk***
Without AIx@75	***Low risk***	633	34	0
	Intermediate risk	43	1,156	39
	High risk	0	33	326

C. Individuals without MACEs

		With AIx@75		
		Low risk	***Intermediate risk***	***High risk***
Without AIx@75	***Low risk***	6,053	199	0
	Intermediate risk	287	3,998	86
	High risk	0	61	491

TABLE S7. Reclassification tables with and without Pf at the tenth-year follow-up

A. All individuals

		With Pf		
		Low risk	***Intermediate risk***	***High risk***
Without Pf	***Low risk***	9,268	100	0
	Intermediate risk	150	6,860	82
	High risk	0	63	1,038

B. Individuals with MACEs

		With Pf		
		Low risk	***Intermediate risk***	***High risk***
Without Pf	***Low risk***	650	17	0
	Intermediate risk	22	1,193	23
	High risk	0	15	344

C. Individuals without MACEs

		With Pf		
		Low risk	***Intermediate risk***	***High risk***
Without Pf	***Low risk***	6,194	58	0
	Intermediate risk	95	4,232	44
	High risk	0	29	523

TABLE S8. Reclassification tables with and without Pb at the tenth-year follow-up

A. All individuals

		With Pb		
		Low risk	***Intermediate risk***	***High risk***
Without Pb	***Low risk***	9,201	167	0
	Intermediate risk	271	6,686	135
	High risk	0	112	989

B. Individuals with MACEs

		With Pb		
		Low risk	***Intermediate risk***	***High risk***
Without Pb	***Low risk***	642	25	0
	Intermediate risk	35	1,164	39
	High risk	0	31	328

C. Individuals without MACEs

		With Pb		
		Low risk	***Intermediate risk***	***High risk***
Without Pb	***Low risk***	6,149	103	0
	Intermediate risk	183	4,115	73
	High risk	0	58	494

TABLE S9. Reclassification tables with and without RM at the tenth-year follow-up

A. All individuals

		With RM		
Without RM		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	9,145	223	0
	Intermediate risk	294	6,661	137
	High risk	0	116	985

B. Individuals with MACEs

		With RM		
Without RM		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	644	23	0
	Intermediate risk	34	1,169	35
	High risk	0	36	323

C. Individuals without MACEs

		With RM		
Without RM		***Low risk***	***Intermediate risk***	***High risk***
	Low risk	6,100	152	0
	Intermediate risk	199	4,094	78
	High risk	0	59	493