Supplementary Table S1. Characteristics of study population at Wave1 according to ΔePWV quartiles.

Characteristic	Total (n = 8,938)	First quartile (n = 2,234)	Second quartile (n = 2,235)	Third Quartile (n = 2,234)	Fourth quartile (n = 2,235)	P value
Age, years	59.5 ± 9.2	59.5 ± 9.1	58.5 ± 9.0	58.9 ± 9.5	61.0 ± 9.2	< 0.0001
Men, n (%)	4,209 (47.1)	975 (43.6)	980 (43.8)	1,065 (47.7)	1,189 (53.2)	< 0.0001
Married, n (%)	7,868 (88.0)	1,978 (88.5)	1,971 (88.2)	1,968 (88.1)	1,951 (87.3)	0.6223
Education level, n (%)						0.3634
No formal education	2,528 (28.3)	629 (28.2)	614 (27.5)	639 (28.6)	646 (28.9)	
Formal education	6,410 (71.7)	1,605 (71.8)	1,621 (72.5)	1,595 (71.4)	1,589 (71.1)	
Smoking status						< 0.0001
Never	5,435 (60.8)	1,447 (64.8)	1,427 (64.0)	1,352 (60.5)	1,209 (54.1)	
Ever	3,498 (39.2)	787 (35.2)	804 (36.0)	881 (39.5)	1,026 (45.9)	
Drinking status						< 0.0001
Never	6,162 (69.0)	1,607 (72.0)	1,561 (70.0)	1,558 (69.8)	1,436 (64.3)	
Past	558 (6.3)	120 (5.4)	134 (6.0)	140 (6.3)	164 (7.3)	
Current	2,206 (24.7)	506 (22.7)	534 (24.0)	533 (23.9)	633 (28.3)	
History of chronic disease, n (%)						
Hypertension	3,575 (40.0)	1,291 (57.8)	829 (37.1)	697 (31.2)	758 (33.9)	< 0.0001
Dyslipidemia	3,364 (37.6)	977 (43.7)	819 (36.6)	769 (34.4)	799 (35.7)	< 0.0001
Diabetes	1,460 (16.3)	406 (18.2)	354 (15.8)	328 (14.7)	372 (16.6)	0.0144
CVD	1,168 (13.1)	324 (14.5)	258 (11.6)	277 (12.4)	309 (13.8)	0.0144
Cancer	83 (0.9)	16 (0.7)	24 (1.1)	17 (0.8)	26 (1.2)	0.3042
SBP, mmHg	130.3 ± 21.2	143.1 ± 22.2	130.3 ± 19.3	125.2 ± 18.7	122.6 ± 18.0	< 0.0001
DBP, mmHg	75.6 ± 12.1	83.3 ± 11.5	76.2 ± 10.7	72.6 ± 10.9	70.2 ± 11.0	< 0.0001
ePWV, m/s	9.6 ± 1.8	10.3 ± 1.8	9.5 ± 1.8	9.3 ± 1.8	9.4 ± 1.7	< 0.0001
BMI, kg/m^2	23.1 ± 3.8	23.5 ± 3.8	23.2 ± 3.7	23.0 ± 3.8	22.7 ± 4.0	0.8162
Waist circumference, cm	84.3 ± 12.2	85.2 ± 12.9	84.4 ± 11.6	84.0 ± 11.7	83.3 ± 12.5	< 0.0001
Total cholesterol, mg/dL	195.1 ± 36.7	196.1 ± 35.4	195.4 ± 35.9	193.3 ± 37.0	195.5 ± 38.6	0.1503
Triglycerides, mg/dL	114.6 (83.2–168.1)	122.1 (86.7–176.1)	115.9 (84.1–167.3)	108.8 (81.4–161.1)	112.4 (79.6–166.4)	< 0.0001
HDL-C, mg/dL	51.7 ± 12.0	51.0 ± 11.8	51.8 ± 11.4	51.7 ± 12.1	52.3 ± 12.7	0.0231
LDL-C, mg/dL	112.9 ± 28.8	113.0 ± 28.4	113.2 ± 28.7	112.1 ± 28.2	113.1 ± 29.7	0.6856
FPG, mg/dL	103.7 ± 35.6	105.4 ± 38.6	102.2 ± 33.1	101.9 ± 30.4	105.3 ± 39.3	0.0026
HbA1c, %	5.2 ± 1.0	5.3 ± 1.1	5.2 ± 1.0	5.2 ± 1.0	5.2 ± 1.0	0.0297

Note. CVD: Cardiovascular disease; SBP: Systolic blood pressure; DBP: Diastolic blood pressure; ePWV: Estimated pulse wave velocity; BMI: Body mass index; HDL-C: High-density lipoprotein cholesterol; LDL-C: low-density lipoprotein cholesterol; FPG: fasting plasma glucose; HbA1c: Hemoglobin A1c. As for continuous variables, data were presented as mean ± SD if normally distributed, and as median with interquartile range (25%–75%) if non-normally distributed. Categorical variables were expressed as frequency with percentages. ΔePWV was defined as the difference of ePWV between Wave 2 and Wave 1.

Supplementary Table S2. Characteristics of study population at Wave2 according to ΔePWV quartiles.

Characteristic	Total (*n* = 8,938)	First quartile (*n* = 2,234)	Second quartile (*n* = 2,235)	Third quartile (*n* = 2,234)	Fourth quartile (*n* = 2,235)	*P* value
Age, years	61.5 ± 9.2	61.5 ± 9.1	60.5 ± 9.0	60.9 ± 9.5	63.0 ± 9.2	< 0.0001
Men, *n* (%)	4,209 (47.1)	975 (43.6)	980 (43.8)	1,065 (47.7)	1,189 (53.2)	< 0.0001
Married, *n* (%)	7,718 (86.4)	1,939 (86.8)	1,934 (86.5)	1,940 (86.8)	1,905 (85.2)	0.3545
Education level, *n* (%)						0.8561
No formal education	2,521 (28.2)	625 (28.0)	619 (27.7)	633 (28.3)	644 (28.8)	
Formal education	6,417 (71.8)	1,609 (72.0)	1,616 (72.3)	1,601 (71.7)	1,591 (71.2)	
Smoking status, *n* (%)						0.0664
Never	8,588 (96.1)	2,136 (95.6)	2,167 (97.0)	2,148 (96.2)	2,137 (95.6)	
Ever	350 (3.9)	98 (4.4)	68 (3.0)	86 (3.8)	98 (4.4)	
Drinking status, *n* (%)						< 0.0001
Never	5,879 (65.8)	1,505 (67.4)	1,514 (67.7)	1,496 (67.0)	1,364 (61.0)	
Past	819 (9.2)	227 (10.2)	199 (8.9)	189 (8.5)	204 (9.1)	
Current	2,240 (25.1)	502 (22.5)	522 (23.4)	549 (24.6)	667 (29.8)	
History of chronic disease, *n* (%)						
Hypertension	3,804 (42.6)	825 (36.9)	710 (31.8)	833 (37.3)	1,436 (64.3)	< 0.0001
Dyslipidemia	2,977 (33.3)	863 (38.6)	729 (32.6)	673 (30.1)	712 (31.9)	< 0.0001
Diabetes	1,368 (15.3)	383 (17.1)	327 (14.6)	310 (13.9)	348 (15.6)	0.0165
CVD	1,168 (13.1)	324 (14.5)	258 (11.5)	277 (12.4)	309 (13.8)	0.0139
Cancer	68 (0.8)	13 (0.6)	17 (0.8)	18 (0.8)	20 (0.9)	0.6734
SBP, mmHg	131.5 ± 21.0	122.5 ± 17.5	126.6 ± 18.5	131.0 ± 18.6	145.8 ± 21.4	< 0.0001
DBP, mmHg	76.0 ± 11.9	70.7 ± 10.5	73.3 ± 10.5	76.2 ± 10.9	83.6 ± 11.9	< 0.0001
ePWV, m/s	10.0 ± 1.9	9.5 ± 1.7	9.6 ± 1.8	9.9 ± 1.8	11.0 ± 1.8	< 0.0001
BMI, kg/m^2	23.7 ± 3.8	23.9 ± 3.8	23.7 ± 3.9	23.7 ± 3.7	23.5 ± 3.8	0.0065
Waist circumference, cm	86.8 ± 10.3	87.3 ± 10.4	86.3 ± 10.2	86.6 ± 10.2	87.1 ± 10.5	0.0178
Total cholesterol, mg/dL	193.6 ± 35.3	196.3 ± 34.8	194.2 ± 37.4	191.1 ± 33.8	193.0 ± 34.9	< 0.0001
Triglycerides, mg/dL	110.6 (77.0–157.5)	116.8 (81.4–164.6)	108.0 (74.3–156.6)	109.7 (75.2–153.1)	109.7 (77.9–155.4)	< 0.0001
HDL-C, mg/dL	51.5 ± 14.2	50.6 ± 14.5	51.4 ± 13.7	51.7 ± 14.1	52.4 ± 14.6	0.0001
LDL-C, mg/dL	116.3 ± 31.7	117.5 ± 32.7	117.0 ± 32.7	114.9 ± 29.4	115.7 ± 32.0	0.0181
FPG, mg/dL	110.1 ± 33.4	111.3 ± 37.3	109.1 ± 30.7	109.2 ± 31.0	110.8 ± 34.2	0.3678
HbA1c, %	5.3 ± 0.8	5.3 ± 0.8	5.2 ± 0.7	5.2 ± 0.7	5.3 ± 0.8	0.3265

Note. CVD: Cardiovascular disease; SBP: Systolic blood pressure; DBP: Diastolic blood pressure; ePWV: Estimated pulse wave velocity; BMI: Body mass index; HDL-C: High-density lipoprotein cholesterol; LDL-C: low-density lipoprotein cholesterol; FPG: fasting plasma glucose; HbA1c: Hemoglobin A1c. As for continuous variables, data were presented as mean ± SD if normally distributed, and as median with interquartile range (25%–75%) if non-normally distributed. Categorical variables were expressed as frequency with percentages. ΔePWV was defined as the difference of ePWV between Wave 2 and Wave 1.

Supplementary Table S3. Hazard ratios (*HR*s) (95% CI) of all-cause mortality associated with ePWV and ΔePWV in sensitivity analyses

Characteristic	Person-years	Cases, *n*	Incidence rate (per 1,000 person-years)	HR (95% CI)
ePWV				
Excluding cases occurred during the first 2 years of follow-up				
First quartile	21,346	80	3.7	1.00 (Ref)
Second quartile	21,358	121	5.7	1.50 (1.13–1.99)
Third quartile	21,153	234	11.0	2.85 (2.19–3.70)
Fourth quartile	20,003	628	31.4	7.77 (6.03–10.00)
P trend				< 0.0001
per SD increase				1.52 (1.48–1.57)
Excluding cases with history of chronic disease				
First quartile	10,681	38	3.5	1.00 (Ref)
Second quartile	10,655	58	5.4	1.51 (1.00–2.28)
Third quartile	10,591	121	11.4	3.18 (2.19–4.60)
Fourth quartile	9,641	372	38.6	9.99 (7.00–14.26)
P trend				< 0.0001
per SD increase				2.37 (2.19–2.56)
Model further adjusted for age and MBP				
First quartile	21,767	95	4.4	1.00 (Ref)
Second quartile	21,623	160	7.4	0.95 (0.73, 1.24)
Third quartile	21,292	300	14.1	0.99 (0.76, 1,29)
Fourth quartile	19,494	801	41.1	1.05 (0.75, 1.47)
P trend				0.4482
per SD increase				1.59 (1.25, 2.00)
ΔePWV				
Excluding cases with history of chronic disease				
First quartile	5,483	82	15.0	1.00 (Ref)
Second quartile	5,574	63	11.3	1.08 (0.78–1.50)
Third quartile	5,609	70	12.5	1.31 (0.95–1.81)
Fourth quartile	5,527	96	17.4	1.63 (1.21–2.21)
P trend				0.0082
per SD increase				1.16 (1.04-1.30)
Model further adjusted for age and MBP				
First quartile	10,463	162	15.5	1.00 (Ref)
Second quartile	10,595	131	12.4	1.01 (0.78, 1.31)
Third quartile	10,636	157	14.8	1.20 (0.90, 1.60)
Fourth quartile	10,473	208	19.9	1.45 (1.00, 2.08)
P trend				0.0306
per SD increase				1.24 (1.04, 1.48)

Note. HR: Hazard ratio; *CI*: Confidence interval; ePWV: Estimated pulse wave velocity. ΔePWV was defined as the difference of ePWV between Wave 2 and Wave 1. Model of ePWV analyses was adjusted for baseline sex, smoking status, drinking status, history of hypertension, dyslipidemia, diabetes, CVD and cancer, body mass index. Model of ΔePWV analyses was adjusted for the aforementioned covariates using Wave 2 data as well as baseline ePWV.