Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance
placed on this supplemental material which has been supplied by the author(s)

Open Heart

Supplementary information

Supplementary table 1: definition of blood pressure trajectories

	Baseline	**First follow-up**
Always normal	Not treated	Not treated
	SBP<140 and DBP<90 mm Hg	SBP<140 and DBP<90 mm Hg
Always controlled	Treated	Treated
	SBP<140 and DBP<90 mm Hg	SBP<140 and DBP<90 mm Hg
Always uncontrolled	Treated	Treated
	SBP≥140 or DBP≥90 mm Hg	SBP≥140 or DBP≥90 mm Hg
Other	All other possibilities	All other possibilities

Supplementary table 2: baseline characteristics of included and excluded participants for the analysis between blood pressure status at baseline and cardiovascular events and mortality.

	Included	**Excluded**	**P-value**
N (%)	5341 (79.3)	1392 (20.7)	
Age, years	52.7 ± 10.7	52.3 ± 10.8	0.141
Women, %	2892 (54.2)	652 (46.8)	<0.001
Education level, %			<0.001
High	1096 (20.5)	224 (16.2)	
Middle	1346 (25.2)	279 (20.2)	
Low	2896 (54.3)	878 (63.6)	
Born in Switzerland, %	3373 (63.2)	658 (47.3)	<0.001
Living with a partner, %	3577 (67.0)	935 (67.5)	0.705
BMI, kg/m^2, mean ± SD	25.6 ± 4.5	26.6 ± 4.7	<0.001
BMI categories, %			<0.001
Normal	2682 (50.2)	555 (40.0)	
Overweight	1911 (35.8)	551 (39.7)	
Obese	748 (14.0)	283 (20.4)	
Hypertension (%)	1867 (35.0)	633 (45.7)	<0.001
SBP, mmHg, mean ± SD	128 ± 18	129 ± 18	0.001
DBP, mmHg, mean ± SD	79 ± 11	80 ± 11	0.004
Smoking status, %			0.062
Never	2176 (40.7)	556 (40.1)	
Former	1759 (32.9)	424 (30.6)	
Current	1406 (26.3)	406 (29.3)	
Alcohol intake, %			<0.001
Non drinkers	1448 (27.1)	467 (33.6)	
Low risk (1-13/week)	3007 (56.3)	646 (46.4)	
Medium-high (14-34/w)	784 (14.7)	251 (18.0)	
Very high (35+/week)	102 (1.9)	28 (2.0)	
Diagnosed diabetes, %	311 (5.8)	125 (9.1)	<0.001

BMI, body mass index; SD, standard deviation. Results are expressed as number of participants (column percentage) for categorical variables and as mean ± standard deviation for continuous variables. Between groups comparisons performed using chi-square for categorical variables and student's t-test for continuous variables.

Supplementary table 3: association between blood pressure status at baseline and cardiovascular events and mortality, CoLaus|PsyCoLaus study. Analysis performed using inverse probability weighting to account for excluded participants.

	Model 1	P-value	Model 2	P-value
Cardiovascular events				
Normal	1 (ref.)		1 (ref.)	
Treated & controlled	3.20 (2.49 - 4.12)	<0.001	1.47 (1.11 - 1.93)	0.007
Treated & uncontrolled	3.62 (2.81 - 4.66)	<0.001	1.42 (1.06 - 1.90)	0.018
Untreated	2.53 (2.04 - 3.14)	<0.001	1.38 (1.09 - 1.74)	0.008
Cardiovascular death				
Normal	1 (ref.)		1 (ref.)	
Treated & controlled	7.69 (4.62 - 12.8)	<0.001	2.88 (1.65 - 5.04)	<0.001
Treated & uncontrolled	6.40 (3.79 - 10.8)	<0.001	1.93 (1.06 - 3.52)	0.032
Untreated	2.27 (1.27 - 4.06)	0.006	1.03 (0.56 - 1.93)	0.915
Overall mortality				
Normal	1 (ref.)		1 (ref.)	
Treated & controlled	3.23 (2.55 - 4.08)	<0.001	1.23 (0.95 - 1.61)	0.118
Treated & uncontrolled	4.02 (3.21 - 5.04)	<0.001	1.30 (1.02 - 1.66)	0.035
Untreated	2.71 (2.23 - 3.30)	<0.001	1.22 (0.98 - 1.52)	0.083

Results are expressed as value (95% confidence interval). Model 1: unadjusted; model 2, adjusted for gender, age in decades, born in Switzerland (yes, no), educational level (high, middle, low), marital status (living with a partner, living alone), smoking categories (never, former, current), BMI categories (normal, overweight, obese), alcohol consumption categories (none, low, medium-high, very high), diabetes (yes, no), and hypolipidemic drug treatment (yes, no). Statistical analysis using Cox model for overall mortality and CVD events, and Fine-Gray model using non-CVD death as a competing event for CVD mortality. Inverse probability weighting was applied to take into account excluded participants.

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance
placed on this supplemental material which has been supplied by the author(s)

Open Heart

Supplementary table 4: baseline characteristics of included and excluded participants for the analysis between blood pressure trajectories and cardiovascular events and mortality.

	Included	**Excluded**	**P-value**
N (%)	4264 (63.3)	2469 (36.7)	
Age, years	51.9 ± 10.4	53.9 ± 11.2	<0.001
Women, %	2351 (55.1)	1193 (48.3)	<0.001
Education level, %			<0.001
High	945 (22.2)	375 (15.3)	
Middle	1136 (26.7)	489 (19.9)	
Low	2180 (51.2)	1594 (64.9)	
Born in Switzerland, %	2715 (63.7)	1316 (53.3)	<0.001
Living with a partner, %	2896 (68.0)	1616 (65.6)	0.047
BMI, kg/m^2, mean ± SD	25.4 ± 4.3	26.4 ± 4.8	<0.001
BMI categories, %			<0.001
Normal	2197 (51.5)	1040 (42.2)	
Overweight	1515 (35.5)	947 (38.4)	
Obese	551 (12.9)	480 (19.5)	
Hypertension (%)	1365 (32.0)	1135 (46.0)	<0.001
SBP, mm Hg, mean ± SD	127 ± 17	130 ± 19	<0.001
DBP, mm Hg, mean ± SD	79 ± 11	80 ± 11	<0.001
Smoking status, %			<0.001
Never	1774 (41.6)	958 (38.9)	
Former	1433 (33.6)	750 (30.4)	
Current	1056 (24.8)	756 (30.7)	
Alcohol intake, %			<0.001
Non drinkers	1101 (25.8)	814 (33.0)	
Low risk (1-13/week)	2498 (58.6)	1155 (46.8)	
Medium-high (14-34/w)	597 (14.0)	438 (17.7)	
Very high (35+/week)	68 (1.6)	62 (2.5)	
Diagnosed diabetes, %	212 (5.0)	224 (9.1)	<0.001

BMI, body mass index; SD, standard deviation. Results are expressed as number of participants (column percentage) for categorical variables and as mean ± standard deviation for continuous variables. Between groups comparisons performed using chi-square for categorical variables and student's t-test for continuous variables.

Supplementary table 5: association between blood pressure trajectories and cardiovascular events and mortality, CoLaus|PsyCoLaus study. Analysis performed using inverse probability weighting to account for excluded participants.

	Model 1	P-value	Model 2	P-value
Cardiovascular events				
Always normal	1 (ref.)		1 (ref.)	
Always treated & controlled	2.47 (1.48 - 4.13)	0.001	0.93 (0.54 - 1.59)	0.784
Always treated & uncontrolled	4.23 (2.66 - 6.73)	<0.001	1.25 (0.75 - 2.09)	0.394
Other	2.86 (2.21 - 3.69)	<0.001	1.31 (0.98 - 1.77)	0.072
Cardiovascular death				
Always normal	1 (ref.)		1 (ref.)	
Always treated & controlled	9.12 (3.23 - 25.8)	<0.001	2.36 (0.78 - 7.21)	0.130
Always treated & uncontrolled	14.7 (5.44 - 39.7)	<0.001	2.75 (0.83 - 9.08)	0.097
Other	5.59 (2.55 - 12.2)	<0.001	1.80 (0.68 - 4.74)	0.237
Overall mortality				
Always normal	1 (ref.)		1 (ref.)	
Always treated & controlled	4.08 (2.61 - 6.37)	<0.001	1.16 (0.74 - 1.81)	0.513
Always treated & uncontrolled	6.29 (4.10 - 9.66)	<0.001	1.29 (0.80 - 2.08)	0.301
Other	3.36 (2.56 - 4.40)	<0.001	1.20 (0.88 - 1.64)	0.251

Results are expressed as value (95% confidence interval). Model 1: unadjusted; model 2, adjusted for gender, age in decades, born in Switzerland (yes, no), educational level (high, middle, low), marital status (living with a partner, living alone), smoking categories (never, former, current), BMI categories (normal, overweight, obese), alcohol consumption categories (none, low, medium-high, very high), diabetes (yes, no), and hypolipidemic drug treatment (yes, no). Statistical analysis using Cox model for overall mortality and CVD events, and Fine-Gray model using non-CVD death as a competing event for CVD mortality. Inverse probability weighting was applied to take into account excluded participants.