EXPANDED METHODS and DATA SUPPLEMENT
Ambulatory Blood Pressure Monitoring in 9357 Subjects from 11 Populations Highlights Missed Opportunities for Cardiovascular Prevention in Women

Short title: Sex-Specific Risks Associated with Blood Pressure

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Word Counts: manuscript 8821, summary 248
Number: Tables 6; Figures 2

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Expanded Methods

Study Population

As described in detail elsewhere,[1] we constructed the International Database on Ambulatory blood pressure monitoring in relation to Cardiovascular Outcomes (IDACO). Studies were eligible for inclusion, if they involved a random population sample, if baseline information on the ambulatory blood pressure and cardiovascular risk factors was available, and if the subsequent follow-up included both fatal and nonfatal outcomes.

At the time of writing this report, the IDACO database included prospective studies from 11 centers (11,785 subjects). In line with previous reports, we excluded 252 participants (2.1%), because they were less than 18 years old at the moment of enrolment and 219 (1.9%) because their conventional blood pressure had not been measured. We also excluded 493 (4.2%) and 1464 (12.4%) participants, because their ambulatory recording included less than 30 readings over the whole day or less than 5 readings during nighttime, respectively. Thus, the number of subjects statistically analyzed totaled 9357. The participants were 2142 residents from Copenhagen, Denmark;[2] 1124 subjects from Noorderkempen, Belgium;[3] 1097 older men from Uppsala, Sweden;[4] 244 subjects from Novosibirsk, the Russian Federation;[5,6] 1312 inhabitants from Ohasama, Japan;[7] 349 villagers from the JingNing county, China;[8] 1372 subjects from Montevideo, Uruguay;[9] 165 subjects from Pilsen, the Czech Republic;[6] 934 subjects from Dublin, Ireland;[10] 310 subjects from Padova, Italy;[6] and 308 subjects from Kraków, Poland.[6]

Blood Pressure Measurement

Conventional blood pressure was measured by trained observers with a mercury sphygmomanometer,[2-6,8,10] with validated auscultatory[7] (USM-700F, UEDA Electronic Works, Tokyo, Japan) or oscillometric[9] (OMRON HEM-705CP, Omron Corporation, Tokyo, Japan) devices, using the appropriate cuff size, with participants in the sitting[2,3,5-10] or supine[4] position. Conventional blood pressure was the average of two consecutive readings obtained either at the person's home[3,5,6,8,9] or at an examination center.[2,4,7,10] Hypertension was a conventional blood pressure of at least 140 mm Hg systolic or 90 mm Hg diastolic or the use of antihypertensive drugs.[11]

We programmed portable monitors to obtain ambulatory blood pressure readings at 30-minute intervals throughout the whole day,[7,10] or at intervals ranging from 15[2] to 30[4] minutes during daytime and from 30[2] to 60[4] minutes at night. The devices implemented an auscultatory algorithm (Accutracker II) in Uppsala[4] or an oscillometric technique (Spacelabs 90202 and 90207, Takeda TM-2421, and ABPM-630) in the other cohorts.[2,3,5-10]

The same SAS macro processed all ambulatory recordings, which generally stayed unedited. The Ohasama recordings were edited sparsely according to previously published criteria.[12] While accounting for the daily pattern of activities of the participants, we defined daytime as the interval from 10 AM to 8 PM in Europeans[2-6,10] and South Americans,[9] and from 8 AM to 6 PM in Asians.[7,8] The corresponding nighttime intervals ranged from midnight to 6 AM [2-6,9,10] and from 10 PM to 4 AM,[7,8] respectively. These fixed intervals eliminate the transition periods in the morning and evening when blood pressure changes rapidly, resulting in daytime and nighttime blood pressure levels that are within 1–2 mm Hg of the awake and asleep levels. Within individual subjects, we weighted the means of the ambulatory blood pressure by the interval between readings. In dichotomous analyses, we considered 50 years of age as a cut-off limit, because cardiovascular risk increases in postmenopausal women and because 50 years is close to the median age at menopause.[13]

Other Measurements

In all cohorts, we administered a questionnaire to obtain information on each subject's medical history, and smoking and drinking habits. Body mass index was body weight in kilograms divided by height in meters squared. We measured serum cholesterol and blood glucose by automated enzymatic methods. Diabetes mellitus was the use of antidiabetic drugs, a fasting blood glucose concentration of at least 7.0 mmol/L[2-7,9,10] a random blood glucose concentration of at least 11.1 mmol/L,[3,7,8] a self-reported diagnosis,[3,8,9] or diabetes documented in practice or hospital records.[9]

Ascertainment of Events

We ascertained vital status and the incidence of fatal and nonfatal diseases from the appropriate sources in each country, as described in previous publications.[6,9,12-14] Fatal and nonfatal stroke did not include transient ischemic attacks. Coronary events encompassed death from ischemic heart disease, sudden death, nonfatal myocardial infarction, and coronary revascularization. Cardiac events comprised coronary endpoints and fatal and nonfatal heart failure. The composite cardiovascular endpoint included all aforementioned endpoints plus cardiovascular mortality. In all outcome analyses, we only considered the first event within each category. The International Classification of Disease code numbers used to differentiate these events are available in Table S1.

Statistical Methods

For database management and statistical analysis, we used SAS software, version 9.1.3 (SAS Institute, Cary, NC). For comparison of means and proportions, we applied the large-sample z-test and the χ^2-statistic, respectively. Statistical significance was a *P*-value of 0.05 or less on two-sided tests.

Because in middle-aged and older subjects, systolic blood pressure is a stronger risk factor than diastolic blood pressure,[16-18] we limited our analyses to systolic blood pressure. We first plotted incidence rates by fifths of the distributions of systolic blood pressure, while standardizing for cohort and age by the direct method. In dichotomous analyses, we considered 50 years of age as a cut-off limit, because cardiovascular risk increases in postmenopausal women and because 50 years is close to the median age at menopause.[19] We used Kaplan-Meier survival function estimates, plotted according to current recommendations,[20] and the log-rank test to estimate and compare incidence rates by sex. We applied Cox regression to compute standardized hazard ratios, which express the risk for a 1-SD change in the independent variables. We checked the proportional hazards assumption by the Kolmogorov-type supremum test, and by testing the interaction terms between follow-up duration and the risk variable of interest. The hazard ratios were adjusted for cohort, age, body mass index, smoking and drinking, serum cholesterol, history of cardiovascular disease, diabetes mellitus, and treatment with antihypertensive drugs. In analyses stratified by cohort, we pooled the participants recruited in the framework of the European Project on Genes in Hypertension (Kraków, Novosibirsk, Padova, and Pilsen).[11]

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Legend to Figures

Figure S1. Absolute 10-year risk of death (A), a composite cardiovascular (CV) endpoint (B), a fatal or nonfatal stroke (C), or a fatal or nonfatal cardiac event (D) in relation to the nighttime systolic blood pressure.
The continuous risk functions cover the 5th to 95th percentile interval of the nighttime systolic blood pressure and were fitted by Cox regression with adjustment for cohort, age, body mass index, smoking and drinking, serum total cholesterol, history of cardiovascular disease, presence of diabetes mellitus, and antihypertensive drug treatment at baseline. Circles (women) and squares (men) represent the multivariable-adjusted hazard rates by fifths of the distribution of the nighttime systolic blood pressure and have a size proportional to the inverse of the variance of the hazard ratio. The number of events in each quintile is given next to each circle or square; ne is the total number of events by disease category and sex. The P-values for interaction were derived from multivariable-adjusted Cox models as given in Tables 2 and 3.

Figure S2. Night-to-day ratio of systolic blood pressure and nocturnal fall in systolic blood pressure by sex and age group. For each sex and age group, the number of subjects contributing to the mean is given. BP indicates blood pressure.

Table S1. International Classification of Diseases (ICD) Codes Applied in each Cohort

Cohort	Stroke	Myocardial infarction	Angina pectoris	Heart failure
Copenhagen	*ICD8* 430-434 and 436, *ICD10* I60-I64	*ICD8* 410, *ICD10* I21-I22	*ICD8* 411-414, *ICD10* I20 and I23-I25	*ICD8* 427.0, 427.1, 428.0, 429.0, 519.1 and 782.4, *ICD10* I50 and J81
Noorderkempen	*ICD8* 430-434, 436 and 438	*ICD8* 410	*ICD8* 413	*ICD8* 427.0, 427.1, 428.0, 429.0, 519.1 and 782.4
Uppsala	*ICD9* 430-434 and 436, *ICD10* I60-I64	*ICD9* 410, *ICD10* I21	*ICD9* 413 and 411.1, *ICD10* I20	*ICD9* 429, *ICD10* I50
Dublin	*ICD9* 430-434 and 436	*ICD9* 410 and 412	*ICD9* 413, 411.1 and 414	*ICD9* 428
Novosibirsk	*ICD9* 430-434 and 436	*ICD9* 410 and 412	*ICD9* 413 and 411.1	*ICD9* 428
Pilsen	*ICD9* 430-434 and 436	*ICD9* 410 and 412	*ICD9* 413 and 411.1	*ICD9* 428
Padova	*ICD9* 430-434 and 436	*ICD9* 410 and 412	*ICD9* 413 and 411.1	*ICD9* 428
Kraków	*ICD9* 430-438	*ICD9* 410	*ICD9* 413	*ICD9* 428.0-428.4
Montevideo	*ICD10* I60-I64	*ICD10* I21-I22	*ICD10* I20	*ICD10* I50 and J81
Ohasama	*ICD10* I60-I64	……	……	……
JingNing	*ICD9* 430-431 and 434	*ICD9* 410	*ICD9* 413	*ICD9* 428, 427.0 and 427.1

…… Not assessed, because of the low incidence in the Ohasama cohort.

Table S2: Baseline Characteristics by Sex and Age Group

Characteristics	Women			Men		
	<50 yr (n=1953)	≥50 yr (n=2444)	All (n= 4397)	<50 yr (n=1722)	≥50 yr (n=3238)	All (n= 4960)
Number with characteristic (%)						
Hypertension	257 (13.2)	1270 (52.0)	1527 (34.7)	367 (21.3)	1972 (60.9)	2339 (47.2)
Antihypertensive treatment	103 (5.27)	745 (30.5)	848 (19.3)	67 (3.9)	888 (27.4)	955 (19.3)
Diabetes mellitus	51 (2.6)	192 (7.9)	243 (5.5)	44 (2.6)	327 (10.1)	371 (7.5)
Current smokers	526 (26.6)	419 (17.1)	945 (21.5)	675 (39.2)	1056 (32.6)	1731 (34.9)
Current drinkers	738 (37.8)	840 (34.4)	1578 (35.9)	990 (57.5)	2050 (63.3)	3040 (61.3)
History of CV disease	47 (2.4)	185 (7.6)	232 (5.3)	53 (3.1)	443 (13.7)	496 (10.0)
Mean values±SD						
Age, y	36.1±8.5	61.7±6.2	50.3±15.2	36.3±8.4	65.0±7.9	55.0±15.9
Body mass index, kg/m2	23.9±4.3	25.6±4.5	24.8±4.5	25.34±3.9	26.1±3.8	25.8±3.9
Blood pressure, mm Hg						
Conventional systolic	115.6±14.7	133.6±20.2	125.6±20.1	124.3±14.7	140.0±20.0	134.5±19.8
24-hour systolic	113.7±10.1	124.8±13.6	119.9±13.4	121.4±10.3	130.0±14.5	127.0±13.8
Daytime systolic	119.9±11.1	130.9±14.6	126.0±14.3	128.0±11.5	136.7±15.5	133.7±14.8
Nighttime systolic	103.3±10.3	113.1±15.1	108.7±14.1	110.2±10.9	117.9±16.3	115.2±15.1
Conventional diastolic	74.3±10.2	79.4±11.8	77.1±11.4	78.6±10.9	83.3±11.2	81.7±11.3
24-hour diastolic	70.1±7.5	72.9±8.3	71.6±8.1	73.8±7.9	76.5±8.3	75.6±8.3
Daytime diastolic	75.7±8.1	87.7±9.2	76.8±8.8	79.7±8.8	81.2±9.1	80.7±9.0
Nighttime diastolic	60.2±8.0	63.9±8.8	62.3±8.6	63.7±8.5	67.9±9.3	66.4±9.2
Night-to-day ratio	0.86±0.06	0.87±0.09	0.86±0.08	0.86±0.07	0.86±0.09	0.86±0.08
Non-dippers	505 (25.9)	765 (31.3)	1270 (28.9)	442 (25.7)	961 (29.7)	1403 (28.3)
Serum cholesterol, mmol/L	5.17±1.03	5.94±1.18	5.63±1.18	5.42±1.21	5.74±1.12	5.64±1.16

CV indicates cardiovascular. Hypertension was a conventional blood pressure of at least 140 mm Hg systolic or 90 mm Hg diastolic or use of antihypertensive drugs. Diabetes mellitus was use of antidiabetic drugs, a fasting blood glucose concentration of ≥7.0 mmol/L, a random blood glucose concentration of ≥11.1 mmol/L, a self-reported diagnosis, or diabetes documented in practice or hospital records. We considered 50 years of age as a cut-off limit, because it is the median age at menopause.[19] All baseline characteristics differed by age group in both sexes. The only exception was the proportion of nondippers, defined as night-to-day systolic pressure ratio of ≥0.90. Nondipping was significantly more frequent (P<0.01) among older women (31.3% *vs* 25.9%) and men (29.7% *vs* 25.7%) than in younger subjects. In continuous analyses of the night-to-day ratio, however, the age differences disappeared in women (0.87 *vs* 0.86; P=0.25) as well as in men (0.86 *vs* 0.86; P=0.47).

Table S3. Multivariable-Adjusted Standardized Hazard Ratios for All-Cause Mortality in Relation to the 24-h and Nighttime Systolic Blood Pressures by Sex with One Cohort Excluded at a Time

Excluded cohort	Deaths (n)	At risk (n)	24-h	Nighttime
None				
Women	391	4397	1.25 (1.12–1.38)‡	1.30 (1.18–1.44)‡
Men	854	4960	1.12 (1.04–1.19)†	1.14 (1.07–1.20)‡
P	1245	9357	0.097	0.023
Copenhagen (n=2142)				
Women	258	3371	1.16 (1.02–1.33)*	1.27 (1.11–1.45)‡
Men	616	3844	1.11 (1.03–1.20)†	1.13 (1.06–1.21)‡
P	874	7215	0.25	0.039
Noorderkempen (n=1124)				
Women	340	3828	1.24 (1.11–1.38)‡	1.30 (1.17–1.44)‡
Men	768	4405	1.11 (1.04–1.19)†	1.12 (1.05–1.19)‡
P	1108	8233	0.15	0.033
EPOGH (n=1027)				
Women	380	3830	1.26 (1.13–1.40)‡	1.31 (1.18–1.44)‡
Men	842	4500	1.11 (1.04–1.19)†	1.14 (1.07–1.20)‡
P	1222	8330	0.068	0.019
Uppsala (n=1097)				
Women	391	4397	1.25 (1.12–1.38)‡	1.30 (1.18–1.44)‡
Men	556	3863	1.14 (1.04–1.24)†	1.18 (1.08–1.28)‡
P	947	8260	0.16	0.096
Dublin (n=934)				
Women	372	3935	1.25 (1.12–1.39)‡	1.31 (1.18–1.45)‡
Men	837	4488	1.12 (1.05–1.19)†	1.14 (1.07–1.21)‡
P	1209	8423	0.076	0.013
Montevideo (n=1372)				
Women	344	3678	1.26 (1.12–1.41)‡	1.31 (1.18–1.46)‡
Men	811	4307	1.12 (1.05–1.20)‡	1.14 (1.08–1.21)‡
P	1155	7985	0.17	0.054
Ohasama (n=1312)				
Women	265	3534	1.31 (1.16–1.49)‡	1.32 (1.18–1.49)‡
Men	704	4511	1.12 (1.04–1.20)†	1.14 (1.07–1.21)‡
P	969	8045	0.074	0.052
JingNing (349)				
Women	387	4206	1.23 (1.10–1.37)‡	1.28 (1.16–1.42)‡
Men	844	4802	1.11 (1.04–1.19)†	1.13 (1.07–1.20)‡
P	1231	9005	0.13	0.031

P indicates the significance of the sex difference in the hazard ratios. The hazard ratios (95% confidence interval) express the risk associated with a 1-SD increase in systolic blood pressure. EPOGH includes the cohorts recruited in Kraków (n=308), Novosibirsk (n=244), Padova (n=310) and Pilsen (n=165). All models were adjusted for cohort, age, body mass index, smoking and drinking status, serum total cholesterol, history of cardiovascular disease, presence of diabetes mellitus, and antihypertensive drug treatment at baseline. Significance of the hazard ratios: * $P<0.05$, † $P<0.01$, and ‡ $P<0.001$.

Table S4. Multivariable-Adjusted Standardized Hazard Ratios for the Composite Cardiovascular Endpoint in Relation to the 24-h and Nighttime Systolic Blood Pressures by Sex with One Cohort Excluded at a Time

Excluded cohort	Events (n)	At risk (n)	24-h	Nighttime
None				
Women	320	4397	1.56 (1.39–1.74)‡	1.54 (1.38–1.71)‡
Men	760	4960	1.32 (1.23–1.40)‡	1.24 (1.17–1.31)‡
P	1080	9357	0.020	0.0013
Copenhagen (n=2142)				
Women	229	3371	1.52 (1.33–1.74)‡	1.49 (1.31–1.70)‡
Men	566	3844	1.31 (1.22–1.41)‡	1.22 (1.15–1.30)‡
P	795	7215	0.034	0.0066
Noorderkempen (n=1124)				
Women	278	3828	1.54 (1.37–1.73)‡	1.53 (1.37–1.71)‡
Men	703	4405	1.31 (1.22–1.40)‡	1.24 (1.17–1.31)‡
P	981	8233	0.022	0.0010
EPOGH (n=1027)				
Women	310	3830	1.54 (1.37–1.72)‡	1.52 (1.36–1.69)‡
Men	738	4500	1.32 (1.24–1.41)‡	1.25 (1.18–1.32)‡
P	1048	8330	0.037	0.0035
Uppsala (n=1097)				
Women	320	4397	1.56 (1.39–1.74)‡	1.54 (1.38–1.71)‡
Men	446	3863	1.40 (1.28–1.54)‡	1.37 (1.25–1.50)‡
P	766	8260	0.22	0.12
Dublin (n=934)				
Women	310	3935	1.56 (1.39–1.75)‡	1.55 (1.39–1.72)‡
Men	751	4488	1.31 (1.23–1.41)‡	1.24 (1.17–1.31)‡
P	1061	8423	0.019	0.0009
Montevideo (n=1372)				
Women	270	3678	1.57 (1.39–1.78)‡	1.57 (1.40–1.77)‡
Men	695	4307	1.31 (1.23–1.41)‡	1.24 (1.17–1.32)‡
P	965	7985	0.067	0.0049
Ohasama (n=1312)				
Women	206	3534	1.63 (1.43–1.87)‡	1.31 (1.14–1.52)‡
Men	666	4511	1.29 (1.21–1.38)‡	1.22 (1.15–1.30)‡
P	872	8045	0.005	0.0005
JingNing (349)				
Women	317	4206	1.54 (1.38–1.72)‡	1.52 (1.36–1.69)‡
Men	755	4802	1.31 (1.23–1.40)‡	1.24 (1.17–1.31)‡
P	1072	9008	0.025	0.0019

Significance of the hazard ratios: * $P<0.05$, † $P<0.01$, and ‡ $P<0.001$. For further explanation, see Table S3.

Table S5. Multivariable-Adjusted Standardized Hazard Ratios for All-Cause Mortality in Relation to the 24-h Systolic and Nighttime Systolic Blood Pressures by Sex and Baseline Characteristics

Strata	Deaths (n)	At risk (n)	24-h	Nighttime
Normotension				
Women	147	2870	1.29 (1.04–1.59)*	1.30 (1.07–1.60)†
Men	266	2621	1.02 (0.84–1.23) 0.86	1.12 (0.96–1.31) 0.150
P	413	5491	0.21	0.34
Hypertension (HT)				
Women	244	1527	1.26 (1.10–1.44)‡	1.33 (1.18–1.51)‡
Men	588	2339	1.10 (1.02–1.19)*	1.12 (1.05–1.20)†
P	832	3866	0.073	0.011
Untreated HT				
Women	78	679	1.43 (1.13-1.82)†	1.37 (1.10-1.72)†
Men	277	1384	1.09 (0.99-1.22) 0.16	1.11 (1.01-1.23)*
P	355	2063	0.016	0.09
Controlled HT				
Women	70	386	1.20 (0.90–1.59) 0.22	1.35 (1.04–1.76)†
Men	88	293	1.22 (0.93–1.60) 0.44	1.18 (0.91–1.52) 0.22
P	158	679	0.87	0.48
Uncontrolled HT				
Women	96	462	1.24 (0.97–1.57)0.08	1.40 (1.15–1.71)‡
Men	223	662	1.10 (0.96–1.25)0.18	1.11 (0.99–1.24)‡
P	319	1124	0.21	0.024
<50 years				
Women	22	1953	1.08 (0.60–1.95)	1.15 (0.64–2.05)
Men	38	1722	1.08 (0.68–1.69)	1.32 (0.89–1.96)
P	60	3675	0.64	0.50
≥50 years				
Women	369	2444	1.25 (1.12–1.39)‡	1.31 (1.18–1.44)‡
Men	816	3238	1.11 (1.04–1.19)†	1.12 (1.06–1.20)‡
P	1185	5682	0.09	0.020
No previous CV disease				
Women	345	4165	1.30 (1.16–1.45)‡	1.34 (1.21–1.50)‡
Men	674	4464	1.12 (1.04–1.21)†	1.14 (1.07–1.22) ‡
P	1019	8629	0.047	0.012
Previous CV disease				
Women	46	232	1.04 (0.75–1.44) 0.806	1.10 (0.82–1.49) 0.514
Men	180	496	1.10 (0.95–1.27) 0.223	1.11 (0.98–1.27) 0.115
P	226	728	0.66	0.92
European				
Women	214	2624	1.32 (1.15–1.52)‡	1.31 (1.15–1.50)‡
Men	651	3700	1.12 (1.04–1.21)†	1.13 (1.06–1.21)‡
P	865	6324	0.15	0.14
South American				
Women	47	719	1.13 (0.85–1.50) 0.39	1.16 (0.87–1.56) 0.297
Men	43	653	1.02 (0.76–1.37) 0.90	1.06 (0.80–1.40) 0.89
P	90	1372	0.37	0.38
Asian				
Women	130	1054	1.17 (0.97–1.43) 0.103	1.35 (1.13–1.63)†
Men	160	607	1.14 (0.96–1.35) 0.13	1.18 (1.01–1.38)*
P	290	1661	0.55	0.19

Significance of the hazard ratios: * $P<0.05$, † $P<0.01$, and ‡ $P<0.001$. For further explanation, see Table S3.

Table S6. Multivariable-Adjusted Standardized Hazard Ratios for the Composite Cardiovascular Endpoint in Relation to the 24-h and Nighttime Systolic Blood Pressures by Sex and Baseline Characteristics

Strata	Events (n)	At risk (n)	24-h	Nighttime
Normotension				
Women	93	2870	1.53 (1.19–1.97)‡	1.49 (1.17–1.91)†
Men	184	2621	1.44 (1.16–1.80)†	1.28 (1.07–1.53)†
P	277	5491	0.89	0.53
Hypertension (HT)				
Women	227	1527	1.52 (1.33–1.74)‡	1.52 (1.35–1.73)‡
Men	576	2339	1.26 (1.17–1.35)‡	1.20 (1.13–1.28)‡
P	803	3866	0.022	0.0021
Untreated HT				
Women	70	679	1.85 (1.44-2.37)‡	1.70 (1.34-2.15)‡
Men	262	1384	1.31 (1.18-1.46)‡	1.23 (1.12-1.35)‡
P	332	2063	0.0049	0.018
Controlled HT				
Women	59	386	1.34 (1.00–1.80)*	1.45 (1.10–1.92)†
Men	90	293	1.52 (1.16–1.98)†	1.21 (0.95–1.56)0.12
P	149	679	0.73	0.20
Uncontrolled HT				
Women	98	462	1.34 (1.07–1.66)†	1.39 (1.16–1.68)‡
Men	224	662	1.22 (1.07–1.38)†	1.21 (1.09–1.34)‡
P	322	1124	0.66	0.28
<50 years				
Women	22	1953	2.20 (1.40–3.53)†	2.12 (1.29–3.50)†
Men	28	1722	1.45 (0.93–2.27)	1.31 (0.84–2.04)
P	50	3675	0.61	0.49
≥50 years				
Women	298	2444	1.52 (1.36–1.71)‡	1.51 (1.36–1.69)‡
Men	732	3238	1.31 (1.23–1.40)‡	1.24 (1.18–1.33)‡
P	1030	5682	0.092	0.001
No previous CV disease				
Women	272	4165	1.61 (1.43–1.82)‡	1.57 (1.40–1.76)‡
Men	585	4464	1.35 (1.26–1.45)‡	1.28 (1.20–1.36)‡
P	857	8629	0.028	0.0046
Previous CV disease				
Women	48	232	1.31 (0.99–1.81)*	1.33 (1.02–1.75)*
Men	175	496	1.20 (1.05–1.39)†	1.15 (1.01–1.30)*
P	223	728	0.47	0.17
European				
Women	153	2624	1.68 (1.43–1.98)‡	1.65 (1.42–1.92)‡
Men	596	3700	1.28 (1.20–1.38)‡	1.22 (1.14–1.29)‡
P	749	6324	0.030	0.005
South American				
Women	50	719	1.36 (1.03–1.80)*	1.25 (0.94–1.65)
Men	65	653	1.46 (1.15–1.85)†	1.37 (1.09–1.72)†
P	115	1372	0.43	0.44
Asian				
Women	117	1054	1.43 (1.18–1.73)‡	1.46 (1.21–1.76)‡
Men	99	607	1.64 (1.33–2.02)‡	1.56 (1.29–1.89)‡

P	216	1661	0.48	0.78

Significance of the hazard ratios: * $P<0.05$, † $P<0.01$, and ‡ $P<0.001$. For further explanation, see Table S3.

Figure S1

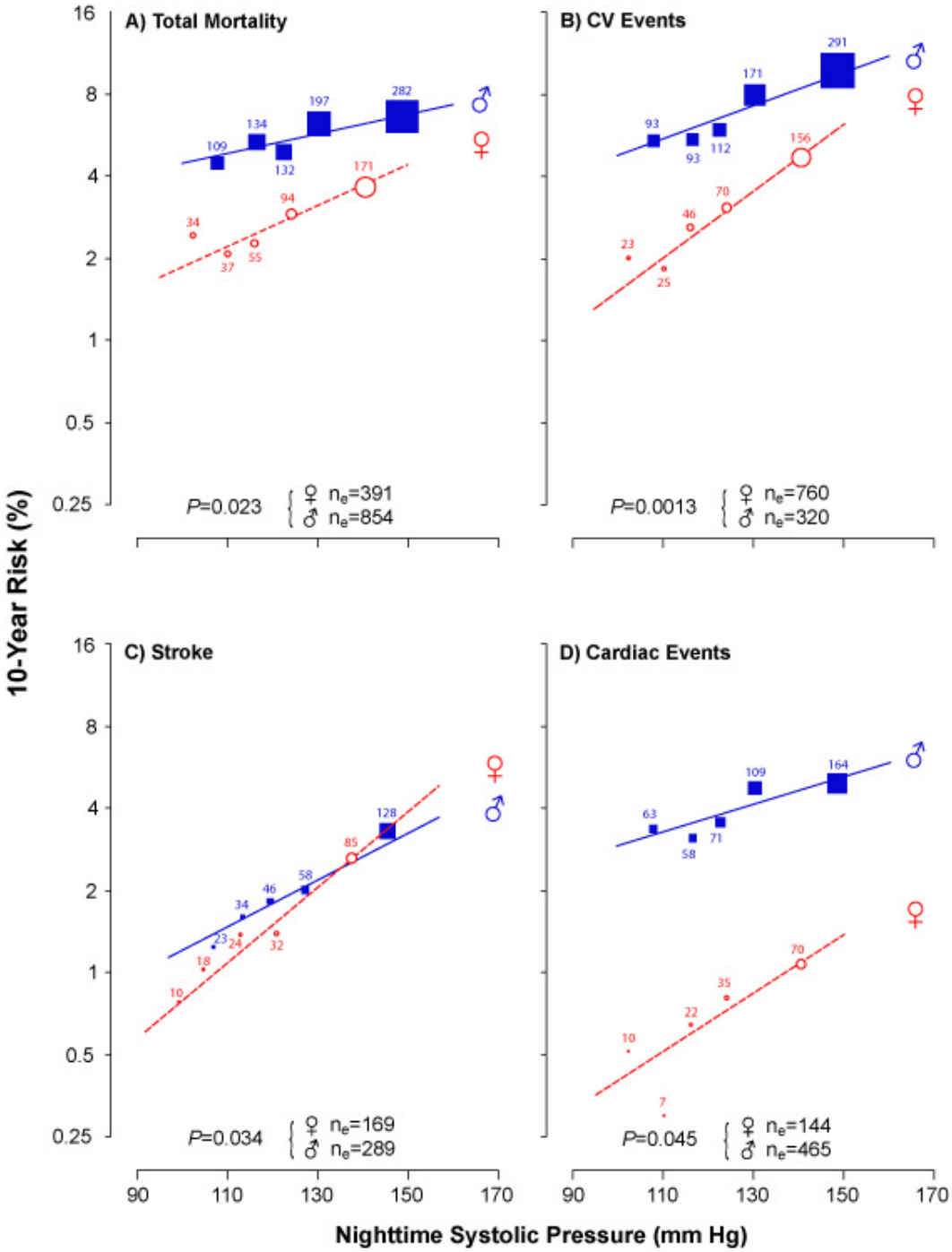
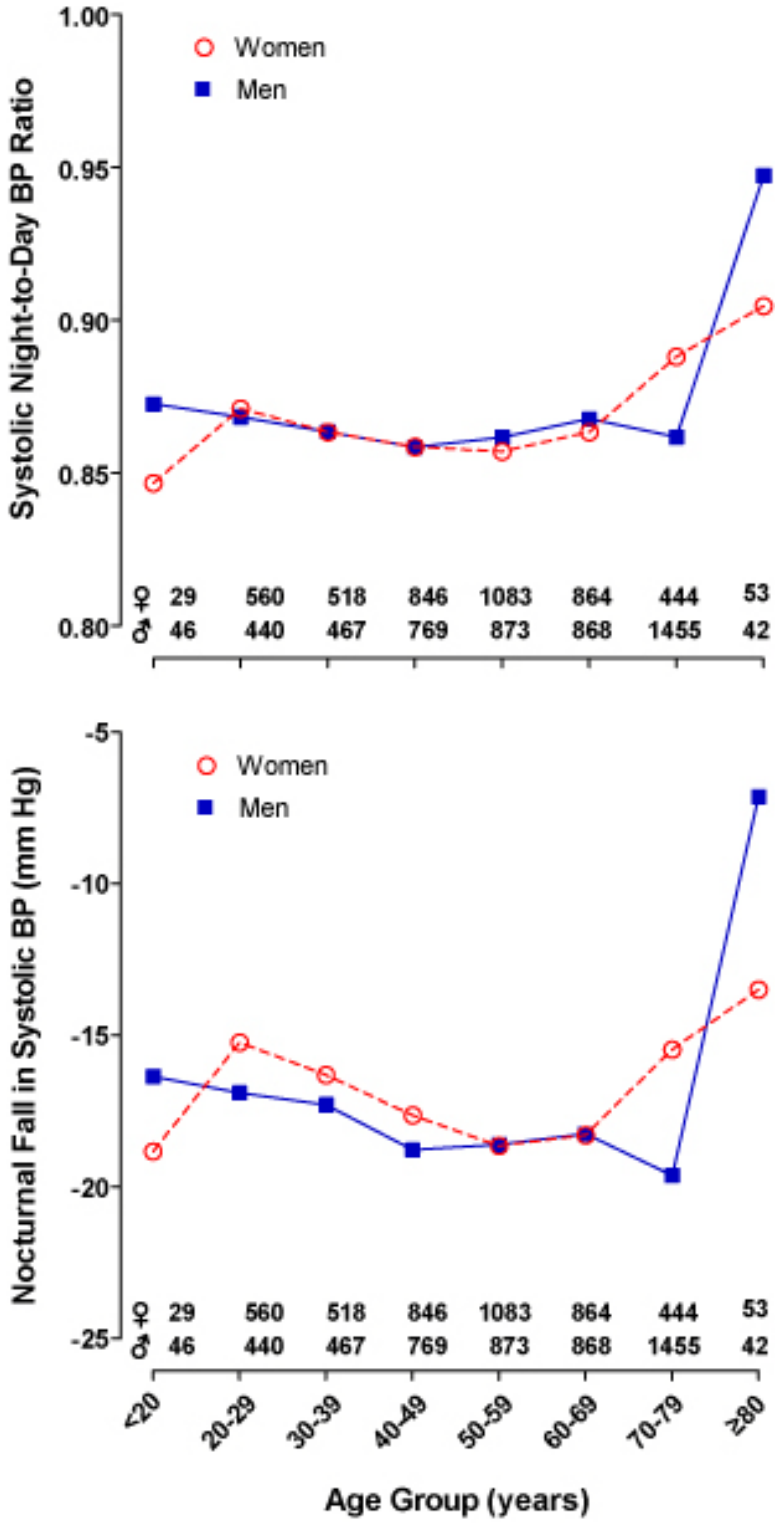

A) Total Mortality
B) CV Events
C) Stroke
D) Cardiac Events
10-Year Risk (%)
Nighttime Systolic Pressure (mm Hg)
16
8
4
2
1
0.5
0.25
90
110
130
150
170
P=0.023
♀ ne=391
♂ ne=854
P=0.0013
♀ ne=760
♂ ne=320
P=0.034
♀ ne=169
♂ ne=289
P=0.045
♀ ne=144
♂ ne=465
109
134
132
197
282
34
37
55
94
171
93
93
112
171
291
23
25
46
70
156
10
18
23
24
32
34
46
58
85
128
7
10
22
35
70
58
63
71
109
164

Figure S2


Systolic Night-to-Day BP Ratio
1.00
0.95
0.90
0.85
0.80
Women
Men
♀ 29 560 518 846 1083 864 444 53
♂ 46 440 467 769 873 868 1455 42
Nocturnal Fall in Systolic BP (mm Hg)
-5
-10
-15
-20
-25
Women
Men
♀ 29 560 518 846 1083 864 444 53
♂ 46 440 467 769 873 868 1455 42
<20
20-29
30-39
40-49
50-59
60-69
70-79
≥80
Age Group (years)