Supplemental Material

Supplemental Table I: Demographic Summary by Excluded versus Included

Variable	Level	Excluded (n=236)	Included (n=912)	p-value
Age	Mean (SD)	58.4 (11.4)	59.2 (11)	0.3124
Waist Circumference (cm)	Mean (SD) (min, max)	missing=3 103.6 (15.6) (63, 149)	missing=0 99.7 (15.6) (56, 244)	0.0008
Low Density Lipoprotein (mg/dL)	Mean (SD) (min, max)	missing=103 126 (35.6) (48, 277)	missing=0 125.8 (35.9) (22, 318)	0.9745
Estimated Glomerular Filtration Rate (ml/min/1.73 m^2)	Mean (SD) (min, max)	missing=16 85.1 (19.8) (19.2, 149.4)	missing=0 84.4 (18.6) (5, 192)	0.6284
Systolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=5 128.3 (15.2 (97.5, 176.6)	missing=0 128 (15.9) (91, 221.7)	0.8264
Diastolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=5 74.2 (9.1) (52.7, 100)	missing=0 74.5 (8.3) (47.7, 106.6)	0.5993
Awake Systolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=3 130.9 (15.1) (97.1, 176.5)	missing=0 129.2 (13.3) (94.8, 188.8)	0.0921
Awake Diastolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=3 78.3 (10.4) (51.4, 104.8)	missing=0 77.9 (9.2) (51.5, 109.4)	0.5071
Asleep Systolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=74 126.2 (18.7) (89.3, 182)	missing=0 120.4 (15.3) (80.8, 192.2)	<.0001
Asleep Diastolic Blood Pressure (mmHg)	Mean (SD) (min, max)	missing=74 71.1 (13.4) (43, 136)	missing=0 68.1 (9.6) (44.4, 109.2)	0.0007
Percent (%) dipping	Mean (SD) (min, max)	missing=74 0 (0.1) (-0.4, 0.3)	missing=0 0.1 (0.1) (-0.4, 0.3)	<.0001
Plasma Aldosterone (ng/dL)	Median [IQR] (min, max)	missing=15 4.7 (3, 8.9) (1.9, 40.8)	missing=0 4.5 (3, 7.3) (1.9, 61.1)	0.1038
Plasma Renin Activity (PRA) (ng/mL/hr)	Median [IQR] (min, max)	missing=71 0.6 (0.2, 1.4) (0.2, 116.6)	missing=266 0.5 (0.2, 1.1) (0.2, 160)	0.0780
Log-Aldosterone	Median [IQR] (min, max)	missing=15 1.5 (1, 2.2) (0.6, 3.7)	missing=0 1.5 (1, 2) (0.6, 4.1)	0.1038
Log-Plasma Renin Activity	Median [IQR] (min, max)	missing=71 -0.5 (-1.6, 0.3) (-1.7, 4.8)	missing=266 -0.7 (-1.6, 0.1) (-1.7, 5.1)	0.0780

Variable	Level	Excluded (n=236)	Included (n=912)	p-value
Log-Aldosterone: Renin Ratio	Median [IQR] (min, max)	missing=71 2 (1.2, 2.9) (-2.4, 4.9)	missing=266 2.3 (1.4, 2.9) (-3.2, 4.7)	0.2771
Gender	Female	155 (66%)	629 (69%)	0.3328
	Male	81 (34%)	283 (31%)	
Education	Missing	9 (4%)	0 (0%)	0.0019
	< high school education	62 (26%)	165 (18%)	
	≥ high school	165 (70%)	747 (82%)	
Occupation	Missing	1 (0%)	0 (0%)	0.0229
	Management/Professional	82 (35%)	393 (43%)	
	other	153 (65%)	519 (57%)	
Smoking status	Missing	9 (4%)	0 (0%)	0.0004
	No	187 (79%)	826 (91%)	
	Yes	40 (17%)	86 (9%)	
Physical activity	Missing	1 (0%)	0 (0%)	0.2169
	Poor Health	120 (51%)	435 (48%)	
	Intermediate Health	78 (33%)	287 (31%)	
	Ideal Health	37 (16%)	190 (21%)	
Alcohol use	Missing	3 (1%)	0 (0%)	0.9962
	No	130 (55%)	509 (56%)	
	Yes	103 (44%)	403 (44%)	
Diabetes	Missing	10 (4%)	0 (0%)	<.0001
	No	130 (55%)	721 (79%)	
	Yes	96 (41%)	191 (21%)	<.0001
Cardiovascular disease history	No	189 (80%)	832 (91%)	
	Yes	47 (20%)	80 (9%)	
Use of Antihypertensive Medications	Missing	24 (10%)	0 (0%)	0.0056
	No	68 (29%)	387 (42%)	
	Yes	144 (61%)	525 (58%)	
Use of Hormone Replacement Therapy	Missing	24 (10%)	0 (0%)	0.0125
	No	182 (77%)	713 (78%)	

Variable	Level	Excluded (n=236)	Included (n=912)	p-value
	Yes	30 (13%)	199 (22%)	
Clinic Hypertension	Missing	5 (2%)	0 (0%)	0.5685
	No	189 (80%)	731 (80%)	
	Yes	42 (18%)	181 (20%)	
Daytime Hypertension	Missing	3 (1%)	0 (0%)	0.0803
	No	130 (55%)	566 (62%)	
	Yes	103 (44%)	346 (38%)	
Nocturnal Hypertension	Missing	74 (31%)	0 (0%)	0.0254
	No	57 (24%)	407 (45%)	
	Yes	105 (44%)	505 (55%)	
Daytime and Nocturnal Hypertension	Missing	74 (31%)	0 (0%)	0.3239
	No	101 (43%)	605 (66%)	
	Yes	61 (26%)	307 (34%)	
Sustained Hypertension	Missing	8 (3%)	0 (0%)	0.8649
	No	195 (83%)	784 (86%)	
	Yes	33 (14%)	128 (14%)	
Non-Dipping Pattern	Missing	74 (31%)	0 (0%)	0.0496
	No	43 (18%)	314 (34%)	
	Yes	119 (50%)	598 (66%)	
White Coat Hypertension	Missing	8 (3%)	0 (0%)	0.1670
	No	220 (93.2%)	859 (94%)	
	Yes	8 (3%)	53 (6%)	
Masked Hypertension	Missing	8 (3%)	0 (0%)	0.0651
	No	160 (68%)	694 (76%)	
	Yes	68(29%)	218 (24%)	

Supplemental Table I Legend:
Values are mean +/- (SD) and (min, max) or % unless otherwise indicated.

P-values were calculated using chi-square (categorical variables), ANOVA (parametric continuous variables), and Kruskal-Wallis tests (non-parametric continuous variables).

CKD-EPI (Chronic Kidney Disease Epidemiology collaboration equation); AHA, American Heart Association, AHA physical activity was defined by AHA “2020” guidelines. Physical activity was considered as poor health (0 min of moderate and vigorous activity), intermediate health (> 0 min but < 150 min of moderate activity),>0 min but<75 min of vigorous activity, or > 0 min but < 150 min of combined moderate and vigorous activity), and ideal health (≥ 150 min of moderate activity, ≥ 75 min of vigorous activity, or ≥ 150 min of combined moderate and vigorous activity).

Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

Supplemental Table II: Ambulatory Blood Pressure Phenotype Definitions

Ambulatory Blood Pressure Phenotype	Definition
Clinic Hypertension	SBP ≥ 140 mmHg or DBP ≥ 90 mmHg
Daytime Hypertension	SBP ≥ 135 mmHg or DBP ≥ 85 mmHg
Nocturnal Hypertension	SBP ≥ 120 mmHg or DBP ≥ 70 mmHg
Non-dipping Pattern	Less than 10% reduction in mean awake to mean asleep SBP
Daytime and Nocturnal Hypertension	The combination of Daytime and Nocturnal Hypertension
Sustained Hypertension	The combination of Clinic Hypertension and Daytime Hypertension
White Coat Hypertension	Clinic Hypertension without Daytime Hypertension
Masked Hypertension	Daytime Hypertension without Clinic Hypertension

Supplemental Table II Legend:
Abbreviations: SBP = systolic blood pressure; DBP = diastolic blood pressure

Supplemental Table III: The Association of Log-Aldosterone, Log-Plasma Renin Activity and Log-Aldosterone: Renin Ratio with Clinic, Daytime, and Nighttime Systolic Blood Pressure, Diastolic Blood Pressure and Percent Dipping with Adjustment for Anti-Hypertensive Medications

		Log-Aldosterone (n=912)		Log-PRA (n=646)		Log-aldosterone:renin ratio (n=646)	
		Beta (CI)	p-value	Beta (CI)	p-value	Beta (CI)	p-value
Clinic SBP	Model 1	1 (-0.62, 2.61)	0.2273	-3.1 (-4.1, -2.09)	<.0001	2.66 (1.72, 3.61)	<.0001
	Model 2	0.69 (-1.15, 2.53)	0.4606	-3.15 (-4.17, -2.13)	<.0001		
Clinic DBP	Model 1	0.96 (0.12, 1.81)	0.0255	-1.1 (-1.64, -0.56)	0.0005	1.2 (0.7, 1.7)	<.0001
	Model 2	1.22 (0.24, 2.2)	0.0146	-1.19 (-1.73, -0.65)	<.0001		
Awake SBP	Model 1	1.22 (-0.11, 2.54)	0.0712	-2.88 (-3.71, -2.04)	<.0001	2.61 (1.83, 3.4)	<.0001
	Model 2	1.17 (-0.36, 2.7)	0.1329	-2.97(-3.81, -2.12)	<.0001		
Awake DBP	Model 1	1.02 (0.12, 1.93)	0.0262	-1.66 (-2.23, -1.1)	<.0001	1.61 (1.08, 2.13)	<.0001
	Model 2	1.04 (0.01, 2.07)	0.0480	-1.75 (-2.32, -1.18)	<.0001		
Asleep SBP	Model 1	1.36 (-0.14, 2.87)	0.0760	-3.34 (-4.3, -2.39)	<.0001	2.95 (2.05, 3.84)	<.0001
	Model 2	1.03 (-0.72, 2.77)	0.2475	-3.42 (-4.39, -2.46)	<.0001		
Asleep DBP	Model 1	1.35 (0.37, 2.33)	0.0072	-1.53 (-2.15, -0.9)	<.0001	1.5 (0.92, 2.08)	<.0001
	Model 2	1.05 (-0.09, 2.19)	0.0717	-1.61(-2.24, -0.98)	<.0001		
Percent dipping	Model 1	-0.22 (-1.02, 0.59)	0.5964	0.46 (-0.07, 1)	0.0902	-0.36 (-0.86, 0.14)	0.1588
	Model 2	0.046 (-0.94, 1.03)	0.9261	0.46 (-0.08, 1.07)	0.0963		

Supplemental Table III Legend:

Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy, estimated glomerular filtration rate and antihypertensive medication status

Model 2: Model 1 + log-PRA or log-aldosterone (mutually adjusted model)

Abbreviations: SBP = systolic blood pressure, DBP = diastolic blood pressure, PRA = plasma renin activity, CI = confidence interval

Interpretation Example:
*Clinic SBP - A 100% higher aldosterone was associated with a 0.69 mmHg higher clinic SBP. A 100% higher PRA was associated with a 2.15 mmHg lower clinic SBP. A 100% higher aldosterone:renin ratio was associated with a 1.84 mmHg higher clinic SBP (Model 1, Formula: β*ln(2))*

Supplemental Table IV: The Association of Log-Aldosterone, Log-Plasma Renin Activity and Log-Aldosterone: Renin Ratio with Ambulatory Blood Pressure Phenotypes with Adjustment for Anti-Hypertensive Medications

		Log-Aldosterone (n=912)		Log-PRA (n=646)		Log-Aldosterone:renin ratio (n=646)	
		OR (CI)	p-value	OR (CI)	p-value	OR (CI)	p-value
Clinic Hypertension	Model 1	1.19 (0.91, 1.55)	0.1997	0.63 (0.51, 0.79)	<.0001	1.47 (1.22, 1.79)	<.0001
	Model 2	1.19 (0.85, 1.66)	0.3086	0.62 (0.5, 0.78)	<.0001		
Daytime Hypertension	Model 1	1.14 (0.91, 1.44)	0.2434	0.58 (0.49, 0.7)	<.0001	1.57 (1.34, 1.84)	<.0001
	Model 2	1.17 (0.88, 1.55)	0.2844	0.58 (0.48, 0.69)	<.0001		
Nocturnal Hypertension	Model 1	1.35 (1.08, 1.7)	0.0090	0.69 (0.59, 0.8)	<.0001	1.46 (1.26, 1.69)	<.0001
	Model 2	1.35 (1.02, 1.79)	0.0359	0.67 (0.57, 0.79)	<.0001		
Daytime and Nocturnal Hypertension	Model 1	1.22 (0.97, 1.54)	0.0972	0.59 (0.49, 0.71)	<.0001	1.57 (1.33, 1.85)	<.0001
	Model 2	1.2 (0.9, 1.61)	0.2221	0.58 (0.48, 0.7)	<.0001		
Sustained Hypertension	Model 1	1.29 (0.95, 1.75)	0.0977	0.52 (0.39, 0.7)	<.0001	1.69 (1.33, 2.14)	<.0001
	Model 2	1.23 (0.84, 1.81)	0.2911	0.51 (0.38, 0.68)	<.0001		
Non-Dipping Blood Pressure Pattern	Model 1	0.99 (0.79, 1.25)	0.9474	0.96 (0.83, 1.12)	0.6326	1.004 (0.87, 1.16)	0.9566
	Model 2	0.91 (0.69, 1.2)	0.4850	0.97 (0.83, 1.13)	0.7119		
White Coat Hypertension	Model 1	0.94 (0.6, 1.48)	0.7947	0.95 (0.7, 1.3)	0.7492	1.06 (0.79, 1.41)	0.7077
	Model 2	1.06 (0.61, 1.85)	0.8439	0.95 (0.69, 1.3)	0.7318		
Masked Hypertension	Model 1	1 (0.77, 1.28)	0.9819	0.74 (0.61, 0.89)	0.0015	1.28 (1.08, 1.51)	0.0036
	Model 2	1.06 (0.78, 1.44)	0.7256	0.74 (0.61, 0.89)	0.0015		

Supplemental Table IV Legend:

Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy, estimated glomerular filtration rate and antihypertensive medication status

Model 2: Model 1 + log-PRA or log-aldosterone (mutually adjusted model)

Abbreviations: PRA = plasma renin activity; OR = odds ratio; CI = confidence interval

Interpretation Example:
Nocturnal hypertension - A 1-unit increase in log-aldosterone was associated with 35% higher odds of nocturnal hypertension (Model 1)

Supplemental Table V. The Association of Log-Aldosterone, Log-Plasma Renin Activity and Log-Aldosterone: Renin Ratio with Clinic, Daytime, and Nighttime Systolic Blood Pressure, Diastolic Blood Pressure and Percent Dipping

		Log-Aldosterone (n=912)		Log-PRA (n=646)		Log-Aldosterone:renin ratio (n=646)	
		Beta (CI)	p-value	Beta (CI)	p-value	Beta (CI)	p-value
Clinic SBP	Model 1	1.53 (-0.03, 3.09)	0.0542	-2.74 (-3.73, -1.76)	<.0001	2.59 (1.64, 3.53)	<.0001
	Model 2	1.28 (-0.52, 3.08)	0.1628	-2.88 (-3.89, -1.88)	<.0001		
Clinic DBP	Model 1	1.22 (0.41, 2.04)	0.0032	-0.9 (-1.47, -0.42)	0.0005	1.16 (0.66, 1.66)	<.0001
	Model 2	1.43 (0.48, 2.39)	0.0033	-1.1 (-1.63, -0.57)	<.0001		
Awake SBP	Model 1	1.37 (0.1, 2.64)	0.0342	-2.72 (-3.54, -1.91)	<.0001	2.6 (1.82, 3.38)	<.0001
	Model 2	1.38 (-0.1, 2.87)	0.0684	-2.87 (-3.7, -2.04)	<.0001		
Awake DBP	Model 1	1.24 (0.38, 2.11)	0.0050	-1.47 (-2.03, -0.92)	<.0001	1.56 (1.04, 2.09)	<.0001
	Model 2	1.33 (0.32, 2.33)	0.0099	-1.62 (-2.18, -1.06)	<.0001		
Asleep SBP	Model 1	1.67 (0.22, 3.12)	0.0240	-3.09 (-4.02, -2.16)	<.0001	2.91 (2.02, 3.8)	<.0001
	Model 2	1.42 (-0.28, 3.12)	0.1017	-3.25 (-4.2, -2.3)	<.0001		
Asleep DBP	Model 1	1.54 (0.6, 2.48)	0.0014	-1.34 (-1.95, -0.73)	<.0001	1.46 (0.87, 2.04)	<.0001
	Model 2	1.32 (0.21, 2.43)	0.0198	-1.49 (-2.11, -0.87)	<.0001		
Percent dipping	Model 1	-0.35 (-1.12, 0.42)	0.3787	0.38 (-0.14, 0.9)	0.1561	-0.34 (-0.84, 0.16)	0.1845
	Model 2	-0.11 (-1.06, 0.84)	0.8208	0.39 (-0.14, 0.92)	0.1515		

Supplemental Table V Legend:

Model 1 includes age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy and estimated glomerular filtration rate

Model 2 includes Model 1 + PRA or aldosterone (mutually adjusted model)

Legend: SBP: systolic blood pressure; DBP: diastolic blood pressure; PRA = plasma renin activity

Interpretation Example:
*Clinic SBP - A 100% increase in aldosterone was associated with a 1.06 mmHg higher clinic SBP, a 100% increase in PRA was associated with a 1.90 mmHg lower clinic SBP, and a 100% increase in the aldosterone to renin ratio was associated with a 0.78 mmHg higher clinic SBP (Model 1, Formula: β*ln(2))*

α= 0.0036 (0.05/14 to adjust for testing 7 outcomes with 2 predictors using Bonferroni correction)

Supplemental Table VI. The Association of Log-Aldosterone, Log-Plasma Renin Activity and Log-Aldosterone: Renin Ratio with Ambulatory Blood Pressure Phenotypes

		Log-Aldosterone (n=912)		Log-Plasma Renin Activity (n=646)		Log-Aldosterone:renin ratio (n=646)	
		OR (CI)	p-value	OR (CI)	p-value	OR (CI)	p-value
Clinic hypertension	Model 1	1.25 (0.97, 1.61)	0.0904	0.65 (0.52, 0.82)	0.0002	1.47 (1.21, 1.79)	0.0001
	Model 2	1.25 (0.91, 1.74)	0.1722	0.64 (0.51, 0.8)	<.0001		
Daytime hypertension	Model 1	1.19 (0.96, 1.48)	0.1217	0.6 (0.51, 0.72)	<.0001	1.57 (1.34, 1.84)	<.0001
	Model 2	1.23 (0.94, 1.63)	0.1335	0.59 (0.49, 0.71)	<.0001		
Nocturnal hypertension	Model 1	1.37 (1.1, 1.7)	0.0048	0.7 (0.6, 0.82)	<.0001	1.46 (1.26, 1.69)	<.0001
	Model 2	1.38 (1.05, 1.81)	0.0208	0.68 (0.58, 0.79)	<.0001		
Daytime and Nocturnal Hypertension	Model 1	1.24 (0.99, 1.55)	0.0639	0.6 (0.5, 0.72)	<.0001	1.57 (1.33, 1.85)	<.0001
	Model 2	1.23 (0.93, 1.64)	0.1501	0.59 (0.48, 0.71)	<.0001		
Sustained hypertension	Model 1	1.33 (0.99, 1.78)	0.0575	0.54 (0.41, 0.72)	<.0001	1.69 (1.33, 2.14)	<.0001
	Model 2	1.3 (0.89, 1.89)	0.1795	0.52 (0.39, 0.7)	<.0001		
Non-dipping blood pressure pattern	Model 1	1.01(0.81, 1.26)	0.9538	0.96 (0.83, 1.11)	0.6033	1.005 (0.87, 1.16)	0.9423
	Model 2	0.91 (0.69, 1.19)	0.4807	0.97 (0.84, 1.13)	0.7150		
White coat hypertension	Model 1	1.02 (0.66, 1.58)	0.9205	0.97 (0.72, 1.32)	0.8640	1.05 (0.78, 1.41)	0.7361
	Model 2	1.11 (0.64, 1.9)	0.7158	0.96 (0.7, 1.32)	0.8143		
Masked hypertension	Model 1	1.03 (0.8, 1.31)	0.8332	0.76 (0.63, 0.91)	0.0026	1.28 (1.08, 1.51)	0.0039
	Model 2	1.1 (0.81, 1.48)	0.5452	0.75 (0.62, 0.9)	0.0022		

Supplemental Table VI Legend:
Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy and estimated glomerular filtration rate
Model 2: Model 1 + PRA or aldosterone (mutually adjusted model).

Abbreviations: OR = odds ratio; CI = confidence interval
Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

Interpretation Example:
Clinic Hypertension: a 1-unit higher log-aldosterone was associated with 25% higher odds of clinic hypertension (p=0.09); a 1-unit increase in log-plasma renin activity was associated with 35% lower odds of clinic hypertension (p=0.0002); and a 1-unit higher log aldosterone:renin ratio was associated with 47% higher odds of clinic hypertension (p=0001) (Model 1).

α= 0.0031 (0.05/16 to adjust for testing 8 outcomes with 2 predictors using Bonferroni correction)

Supplemental Table VII: Association of Aldosterone, PRA and Aldosterone: Renin Ratio with Ambulatory Blood Pressure Phenotypes Based on Hypertension Definition of SBP ≥130 or DBP ≥ 80 mmHg

		Log-Aldosterone (n=912)		Log-PRA (n=646)		Log-Aldosterone:renin ratio (n=646)	
		OR (CI)	p-value	OR (CI)	p-value	OR (CI)	p-value
Clinic hypertension	Model 1	1.13 (0.92, 1.39)	0.2566	0.81 (0.70, 0.93)	0.0032	1.23 (1.07, 1.41)	0.0031
	Model 2	1.12 (0.87, 1.44)	0.3921	0.8 (0.69, 0.92)	0.0023		
Daytime hypertension	Model 1	1.24 (1.01, 1.54)	0.0447	0.69 (0.6, 0.81)	<.0001	1.42 (1.23, 1.64)	<.0001
	Model 2	1.21 (0.93, 1.58)	0.1511	0.68 (0.58, 0.79)	<.0001		
Nocturnal hypertension	Model 1	1.22 (0.93, 1.59)	0.1574	0.71 (0.60, 0.83)	<.0001	1.39 (1.18, 1.63)	<.0001
	Model 2	1.12 (0.81, 1.56)	0.4837	0.7 (0.59, 0.83)	<.0001		
Daytime and Nocturnal Hypertension	Model 1	1.3 (1.05, 1.61)	0.0164	0.66 (0.57, 0.78)	<.0001	1.47 (1.27, 1.7)	<.0001
	Model 2	1.23 (0.94, 1.6)	0.1284	0.65 (0.55, 0.76)	<.0001		
Sustained hypertension	Model 1	1.21 (0.98, 1.51)	0.0806	0.67 (0.57, 0.8)	<.0001	1.42 (1.22, 1.66)	<.0001
	Model 2	1.16 (0.89, 1.52)	0.2788	0.66 (0.55, 0.79)	<.0001		
White coat hypertension	Model 1	0.88 (0.64, 1.2)	0.4085	1.22 (1.01, 1.47)	0.0377	0.84 (0.70, 1.00)	0.0555
	Model 2	0.95 (0.66, 1.37)	0.7925	1.23 (1.01, 1.48)	0.0366		
Masked hypertension	Model 1	1.05 (0.81, 1.36)	0.7043	0.95 (0.80, 1.13)	0.5894	1.06 (0.90, 1.25)	0.4820
	Model 2	1.08 (0.79, 1.47)	0.6399	0.95 (0.79, 1.13)	0.5381		

Supplemental Table VII Legend:

Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy and estimated glomerular filtration rate

Model 2: Model 1 + PRA or aldosterone (mutually adjusted model).

Abbreviations: SBP: Systolic blood pressure; DBP: Diastolic blood pressure; PRA: plasma renin activity:

Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

Interpretation Example:
Daytime Hypertension - a 1-unit higher log-aldosterone was associated with 24% higher odds of daytime hypertension (p=0.0447); a 1-unit higher log-PRA was associated with 31% lower odds of daytime hypertension (p<.0001); a 1-unit higher log-aldosterone: renin ratio was associated with 42% higher odds of daytime hypertension (p<.0001) (Model 1).

Supplemental Table VIII. The Association of Plasma Renin Activity Phenotype with Clinic, Daytime, and Nighttime Systolic Blood Pressure, Diastolic Blood Pressure and Percent Dipping

		Suppressed PRA Phenotype (N=348) (PRA ≤0.50 ng/mL/h)	Indeterminate PRA Phenotype (N=113) (PRA, 0.51 to 0.99 ng/mL/h)	Unsuppressed PRA Phenotype (N=185) (PRA ≥1.0 ng/mL/h)
		Beta (CI), P-value	Beta (CI), P-value	Beta (CI), P-value
clinic SBP	Model 1	5.77 (3.07, 8.48), <.0001	1.41 (-2.07, 4.89), 0.4274	Ref
	Model 2	6.03 (3.28, 8.77), <.0001	1.5 (-1.98, 4.98), 0.3978	Ref
clinic DBP	Model 1	2.11 (0.68, 3.54), 0.0040	0.41 (-1.44, 2.25), 0.6636	Ref
	Model 2	2.45 (1, 3.9), 0.0009	0.54 (-1.3, 2.37), 0.5667	Ref
Awake SBP	Model 1	5.67 (3.42, 7.92), <.0001	3.25 (0.35, 6.14), 0.0280	Ref
	Model 2	5.93 (3.65, 8.21), <.0001	3.35 (0.5, 6.24), 0.0236	Ref
Awake DBP	Model 1	2.76 (1.24, 4.28), 0.0004	2.79 (0.83, 4.75), 0.0054	Ref
	Model 2	3.03 (1.49, 4.57), 0.0001	2.89 (0.93, 4.85), 0.0039	Ref
Asleep SBP	Model 1	7.24 (4.69, 9.80), <.0001	2.60 (-0.68, 5.89), 0.1203	Ref
	Model 2	7.54 (4.95, 10.13), <.0001	2.71 (-0.57, 6), 0.1056	Ref
Asleep DBP	Model 1	2.94 (1.27, 4.62), 0.0006	1.38 (-0.77, 3.53), 0.2077	Ref
	Model 2	3.24 (1.55, 4.93), 0.0002	1.49 (-0.65, 3.64), 0.1728	Ref
% dipping	Model 1	-1.4 (-2.81, 0.02), 0.0535	0.33 (-1.49, 2.16), 0.7187	Ref
	Model 2	-1.44 (-2.87, 0.001), 0.0502	0.32 (-1.51, 2.15), 0.7316	Ref

Supplemental Table VIII Legend:

Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate

Model 2: Model 1 + aldosterone

Abbreviations: SBP = systolic blood pressure; DBP = diastolic blood pressure; PRA = plasma renin activity; CI = confidence interval

Interpretation Example:
Clinic SBP – Those with the Suppressed PRA phenotype had a 5.77 mmHg higher SBP compared to the unsuppressed renin phenotype (Model 1).

α= 0.0071 (0.05/7 to adjust for testing 7 outcomes using Bonferroni correction)

Supplemental Table IX. The Association of Plasma Renin Activity Phenotype with Ambulatory Blood Pressure Phenotypes

		Suppressed PRA Phenotype (N=348) (PRA ≤0.50 ng/mL/h)	Indeterminate PRA Phenotype (N=113) (PRA, 0.51 to 0.99 ng/mL/h)	Unsuppressed PRA Phenotype (N=185) (PRA ≥1.0 ng/mL/h)
		OR (CI), p-value	OR (CI), p-value	OR (CI)
Clinic Hypertension	Model 1	2.75 (1.59, 4.77), 0.0003	1.56 (0.78, 3.13), 0.2079	Ref
	Model 2	2.89 (1.66, 5.05), 0.0002	1.6 (0.8, 3.21), 0.1861	Ref
Daytime Hypertension	Model 1	2.90 (1.88, 4.47), <.0001	1.70 (0.99, 2.92), 0.0535	Ref
	Model 2	3.01 (1.94, 4.67), <.0001	1.73 (1.01, 2.97), 0.0471	Ref
Nocturnal Hypertension	Model 1	2.14 (1.43, 3.19), 0.0002	1.14 (0.69, 1.90), 0.6105	Ref
	Model 2	2.3 (1.53, 3.45), <.0001	1.16 (0.7, 1.94), 0.5625	Ref
Daytime and Nocturnal Hypertension	Model 1	2.82 (1.79, 4.44), <.0001	1.44 (0.81, 2.55), 0.2102	Ref
	Model 2	2.93 (1.85, 4.62), <.0001	1.46 (0.83, 2.58), 0.1939	Ref
Sustained Hypertension	Model 1	4.32 (2.14, 8.71), <.0001	2.3 (0.98, 5.38), 0.0563	Ref
	Model 2	4.59 (2.25, 8.37), <.0001	2.39 (1.01, 5.64), 0.0465	Ref
Non-Dipping Blood Pressure Pattern	Model 1	1.29 (0.87, 1.93), 0.2066	0.78 (0.47, 1.29), 0.3384	Ref
	Model 2	1.27 (0.85, 1.91), 0.2480	0.78 (0.47, 1.29), 0.3265	Ref
White Coat Hypertension	Model 1	1.04 (0.46, 2.35), 0.9348	0.79 (0.26, 2.45), 0.6867	Ref
	Model 2	1.06 (0.46, 2.43), 0.8947	0.79 (0.26, 2.46), 0.6888	Ref
Masked Hypertension	Model 1	1.64 (1.03, 2.6), 0.0362	1.3 (0.73, 2.32), 0.3796	Ref
	Model 2	1.66 (1.04, 2.64), 0.0338	1.31 (0.73, 2.34), 0.3701	Ref

Supplemental Table IX Legend:
Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate
Model 2: Model 1 + aldosterone

Abbreviations: SBP: Systolic blood pressure; DBP: Diastolic blood pressure; PRA: plasma renin activity; CI = confidence interval; OR = odds ratio
Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

Interpretation Example:
Clinic Hypertension – those with the Suppressed PRA phenotype had 175% higher odds of having clinic hypertension compared to those with the unsuppressed renin phenotype (Model 1).

α= 0.0063 (0.05/8 to adjust for testing 8 outcomes using Bonferroni correction)

Supplemental Table X. The Association of Aldosterone Clinic, Daytime, and Nighttime Systolic Blood Pressure, Diastolic Blood Pressure and Percent Dipping Stratified by Plasma Renin Activity

Exposure: Aldosterone		
Plasma Renin Activity	Clinic Systolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.52 (-1.43, 4.47)	1.55 (-1.34, 4.44)
0.51 - 0.99 ngm/L/hour	-5.49 (-9.97, -1)	-5.19 (-9.58, -0.8)
≤ 0.50 ng/mL/hour	4.07 (1.44, 6.7)	2.66 (0.06, 5.26)
p-value for interaction	0.0016	0.0091
	Clinic Diastolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.42 (-0.13, 2.96)	1.17 (-0.36, 2.71)
0.51 - 0.99 ng/mL/hour	1.11 (-1.24, 3.45)	0.9 (-1.43, 3.24)
≤ 0.50 ng/mL/hour	1.38 (-0.001, 2.75)	1.63 (0.25, 3.01)
p-value for interaction	0.9749	0.8392
	Awake Systolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	0.45 (-2.13, 3.03)	1.09 (-1.33, 3.5)
0.51 - 0.99 ng/mL/hour	-3.83 (-7.75, 0.09)	-2.65 (-6.31, 1.01)
≤ 0.50 ng/mL/hour	3.05 (0.75, 5.36)	2.27 (0.09, 4.44)
p-value for interaction	0.0109	0.0751
	Awake Diastolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	-0.16 (-1.9, 1.59)	0.31 (-1.32, 1.95)
0.51 - 0.99 ng/mL/hour	0.5 (-2.15, 3.14)	1.12 (-1.36, 3.6)
≤ 0.50 ng/mL/hour	1.23 (-0.33, 2.78)	1.66 (0.19, 3.13)
p-value for interaction	0.5073	0.4767
	Asleep Systolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.28 (-1.67, 4.22)	1.61 (-1.14, 4.35)
0.51 - 0.99 ng/mL/hour	-0.93 (-5.41, 3.55)	-0.1 (-4.27, 4.07)
≤ 0.50 ng/mL/hour	2.57 (-0.06, 5.2)	1.24 (-1.24, 3.71)
p-value for interaction	0.4075	0.7932
	Asleep Diastolic Blood Pressure Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	0.39 (-1.45, 2.23)	0.75 (-1.04, 2.55)
0.51 - 0.99 ng/mL/hour	1.17 (-1.63, 3.97)	1.73 (-1, 4.45)
≤ 0.50 ng/mL/hour	1.37 (-0.27, 3.01)	1.32 (-0.3, 2.93)
p-value for interaction	0.7288	0.8140
	Percent dipping Beta (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	-0.69 (-2.21, 0.83)	-0.5 (-2.02, 1.03)
0.51 - 0.99 ng/mL/hour	-1.91 (-4.22, 0.4)	-1.75 (-4.06, 0.56)
≤ 0.50 ng/mL/hour	0.19 (-1.17, 1.55)	0.65 (-0.72, 2.02)
p-value for interaction	0.2888	0.1839

Supplemental Table X Legend:

Model 0: Unadjusted
Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate

Abbreviations: CI = confidence interval

Interpretation Example:
*Clinic SBP - Among those with a renin activity of ≤ 0.50 mg/mL/hr, a 100% increase in aldosterone was associated with a 1.84 mmHg higher SBP (Model 1, Formula: β*ln(2)).*

Supplemental Table XI. The Association of Aldosterone with Ambulatory Blood Pressure Phenotypes Stratified by Plasma Renin Activity

Exposure: Aldosterone		
Plasma Renin Activity	Clinic Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.1 (0.61, 2)	1.09 (0.6, 2)
0.51 - 0.99 ng/mL/hour	0.68 (0.3, 1.55)	0.73 (0.31, 1.69)
≤ 0.50 ng/mL/hour	1.71 (1.14, 2.56)	1.49 (0.97, 2.29)
p-value for interaction	0.1100	0.2937
	Daytime Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.03 (0.67, 1.61)	1.11 (0.7, 1.76)
0.51 - 0.99 ng/mL/hour	0.83 (0.45, 1.54)	1.02 (0.53, 1.97)
≤ 0.50 ng/mL/hour	1.39 (0.98, 1.97)	1.29 (0.88, 1.89)
p-value for interaction	0.3035	0.7857
	Nocturnal Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.12 (0.76, 1.65)	1.25 (0.82, 1.91)
0.51 - 0.99 ng/mL/hour	1.01 (0.56, 1.83)	1.18 (0.63, 2.24)
≤ 0.50 ng/mL/hour	1.53 (1.06, 2.2)	1.46 (0.98, 2.17)
p-value for interaction	0.3764	0.8118
	Daytime and Nocturnal Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.02 (0.65, 1.62)	1.13 (0.69, 1.84)
0.51 - 0.99 ng/mL/hour	1.05 (0.55, 1.99)	1.34 (0.67, 2.67)
≤ 0.50 ng/mL/hour	1.28 (0.9, 1.82)	1.17 (0.79, 1.72)
p-value for interaction	0.7196	0.9234
	Sustained Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.39 (0.65, 2.97)	1.4 (0.64, 3.05)
0.51 - 0.99 ng/mL/hour	0.74 (0.3, 1.87)	0.91 (0.35, 2.38)
≤ 0.50 ng/mL/hour	1.5 (0.96, 2.33)	1.32 (0.82, 2.14)
p-value for interaction	0.4014	0.7556
	Non-Dipping Blood Pressure Pattern Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	1.32 (0.87, 2)	1.3 (0.84, 2.03)
0.51 - 0.99 ng/mL/hour	1.1 (0.6, 2.02)	1.04 (0.55, 1.96)
≤ 0.50 ng/mL/hour	0.8 (0.55, 1.16)	0.68 (0.46, 1.01)
p-value for interaction	0.2012	0.0923
	White Coat Hypertension Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	0.81 (0.33, 1.96)	0.79 (0.33, 1.91)
0.51 - 0.99 ng/mL/hour	0.6 (0.13, 2.75)	0.51 (0.11, 2.27)
≤ 0.50 ng/mL/hour	1.93 (0.94, 3.94)	1.76 (0.83, 3.74)
p-value for interaction	0.1992	0.2161
	Masked Hypertension	

	Odds Ratio (95% CI)	
	Model 0	Model 1
≥ 1.0 ng/mL/hour	0.91 (0.56, 1.49)	0.98 (0.59, 1.64)
0.51 - 0.99 ng/mL/hour	0.94 (0.48, 1.87)	1.13 (0.55, 2.33)
≤ 0.50 ng/mL/hour	1.1 (0.75, 1.63)	1.08 (0.72, 1.63)
p-value for interaction	0.8158	0.9403

Supplemental Table XI Legend:

Model 0: Unadjusted
Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate

Abbreviations: CI = confidence interval

Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

Interpretation Example:
Clinic Hypertension - for those with a renin activity ≤ 0.50 ng/mL/hr, a 1 unit increase in log-aldosterone was associated with 49% higher odds of clinic hypertension (Model 1).

Supplemental Table XII: Dietary Sodium Intake by Renin Phenotype

	Median Dietary Sodium (mg)	Lower Quartile of Dietary Sodium (mg)	Upper Quartile of Dietary Sodium (mg)	p-value
Suppressed Renin Phenotype (n=322)	3665.31	2486.33	4936.70	0.0878
Indeterminate Renin Phenotype (n=102)	3460.15	2598.69	4531.91	
Unsuppressed Renin Phenotype (n=174)	3215.38	2155.08	4683.26	

Supplemental Table XII Legend:

Suppressed Renin Phenotype is defined as plasma renin activity less than 0.50 ng/ml/hr; indeterminate renin phenotype is defined as plasma renin activity between 0.51 and 1.0 ng/ml/hr; unsuppressed renin phenotype is defined as plasma renin activity over 1.0 ng/ml/hr. Daily sodium intake in milligrams were evaluated using a food frequency questionnaire.[30]

Supplemental Table XIII. The Association of log-Aldosterone, log-Renin, and log-Aldosterone: Renin Ratio with Clinic, Awake, Asleep Systolic and Diastolic Blood Pressure and Percent Dipping with Additional Adjustment for Dietary Sodium

		Log-Aldosterone	Log-Plasma Renin Activity	Log-ARR
	Model	Beta (95% CI), p-value	Beta (95% CI), p-value	Beta (95% CI), p-value
Clinic SBP	Model 1	1.59 (-0.02, 3.20), 0.0529	-2.84 (-3.84, -1.84), 0.0000	2.69 (1.73, 3.65), 0.0000
	Model 2	1.37 (-0.50, 3.22), 0.1504	-2.98 (-4.00, -1.96), 0.0000	
Clinic DBP	Model 1	1.26 (0.43, 2.09), 0.0031	-1.03 (-1.56, -0.50), 0.0001	1.25 (0.75, 1.76), 0.0000
	Model 2	1.54 (0.56, 2.52), 0.0021	-1.19 (-1.73, -0.66), 0.0000	
Awake SBP	Model 1	1.19 (-0.13, 2.51), 0.0767	-2.75 (-3.58, -1.92), 0.0000	2.60 (1.80, 3.39), 0.0000
	Model 2	1.28 (-0.27, 2.82), 0.1048	-2.88 (-3.73, -2.04), 0.0000	
Awake DBP	Model 1	1.1014 (0.20, 2.00), 0.0166	-1.44 (-2.01, -0.88), 0.0000	1.50 (0.96, 2.04), 0.0000
	Model 2	1.17 (0.12, 2.22), 0.0289	-1.57 (-2.14, -0.99), 0.0000	
Asleep SBP	Model 1	1.52 (0.02, 3.01), 0.0472	-3.21 (-4.17, -2.26), 0.0000	3.01 (2.10, 3.93), 0.0000
	Model 2	1.42 (-0.35, 3.19), 0.1150	-3.36 (-4.33, -2.39), 0.0000	
Asleep DBP	Model 1	1.48 (0.51, 2.46), 0.0030	-1.40 (-2.03, -0.77), 0.0000	1.52 (0.92, 2.12), 0.0000
	Model 2	1.37 (0.20, 2.54), 0.0214	-1.55 (-2.19, -0.91), 0.0000	
Percent Dipping	Model 1	-0.35 (-1.15, 0.44), 0.3801	0.45 (-0.08, 0.99), 0.0976	-0.42 (-0.93, 0.09), 0.1089
	Model 2	-0.18 (-1.18, 0.82), 0.7221	0.47 (-0.07, 1.02), 0.0905	

Supplemental Table XIII Legend:

Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy and estimated glomerular filtration rate, dietary sodium

Model 2: Model 1 + renin or aldosterone (mutually adjusted model).

Abbreviations: SBP = systolic blood pressure, DBP = diastolic blood pressure, ARR = aldosterone:renin ratio

Interpretation Example:
Clinic SBP – a 100% higher aldosterone was associated with a 1.10 mmHg higher clinic SBP; a 100% higher plasma renin activity was associated with a 1.97 mmHg lower clinic SBP; a 100% higher aldosterone:renin ratio was associated with a 1.86 mmHg higher clinic SBP

Supplemental Table XIV. The Association of log-Aldosterone, log-Plasma Renin Activity, and log-Aldosterone: Renin Ratio with Ambulatory Blood Pressure Phenotypes – Additional Adjustment for Dietary Sodium

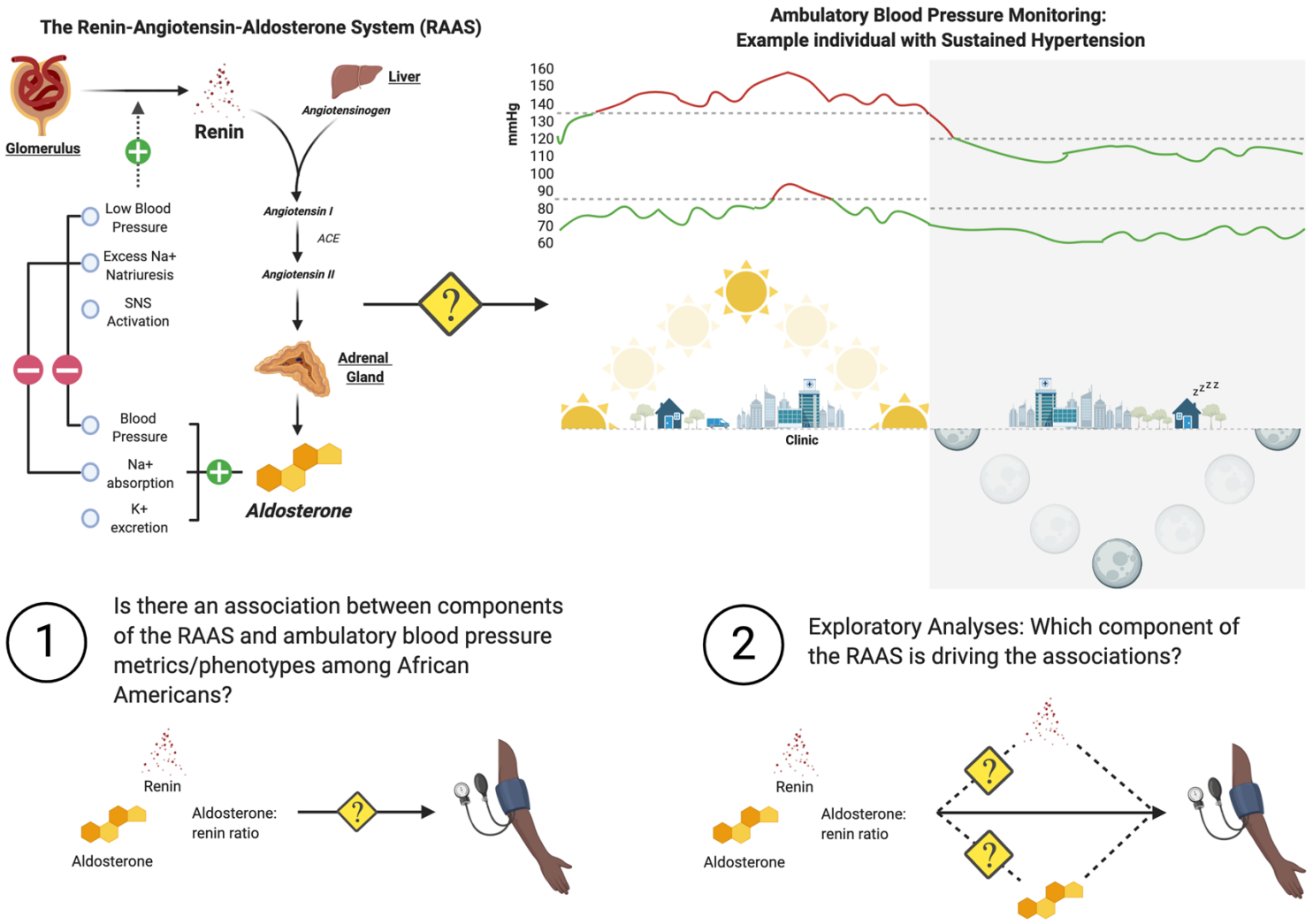
		Log-Aldosterone	Log-Plasma Renin Activity	Log-ARR
	Model	OR (95% CI), p-value	OR (95% CI), p-value	OR (95% CI), p-value
Clinic Hypertension	Model 1	1.27 (0.97, 1.66), 0.0863	0.66 (0.53, 0.83), 0.0004	1.47 (1.20, 1.80), 0.0002
	Model 2	1.28 (0.91, 1.80), 0.1495	0.65 (0.51, 0.81), 0.0002	
Daytime Hypertension	Model 1	1.22 (0.97, 1.53), 0.0870	0.62 (0.52, 0.74), 0.0000	1.54 (1.31, 1.82), 0.0000
	Model 2	1.25 (0.94, 1.67), 0.1286	0.61 (0.50, 0.73), 0.0000	
Nocturnal Hypertension	Model 1	1.33 (1.06, 1.67), 0.0129	0.67 (0.57, 0.79), 0.0000	1.51 (1.29, 1.75), 0.0000
	Model 2	1.36 (1.02, 1.80), 0.0365	0.65 (0.55, 0.76), 0.0000	
Daytime and Nocturnal Hypertension	Model 1	1.26 (1.00, 1.60), 0.0500	0.60 (0.49, 0.73), 0.0000	1.58 (1.32, 1.87), 0.0000
	Model 2	1.25 (0.93, 1.69), 0.1440	0.59 (0.48, 0.72), 0.0000	
Sustained Hypertension	Model 1	1.40 (1.03, 1.91), 0.0340	0.54 (0.40, 0.72), 0.0000	1.71 (1.33, 2.20), 0.0000
	Model 2	1.34 (0.89, 2.00), 0.1606	0.52 (0.38, 0.70), 0.0000	
Non-Dipping Pattern	Model 1	0.98 (0.78, 1.23), 0.8631	0.95 (0.82, 1.10), 0.4856	1.02 (0.88, 1.17), 0.8160
	Model 2	0.90 (0.68, 1.20), 0.4772	0.96 (0.82, 1.12), 0.5861	
White Coat Hypertension	Model 1	0.96 (0.61, 1.50), 0.8570	0.98 (0.72, 1.32), 0.8721	1.04 (0.78, 1.40), 0.7719
	Model 2	1.09 (0.63, 1.88), 0.7695	0.97 (0.71, 1.32), 0.8311	
Masked Hypertension	Model 1	1.03 (0.80, 1.33), 0.8104	0.77 (0.64, 0.93), 0.0073	1.25 (1.06, 1.49), 0.0100
	Model 2	1.09 (0.79, 1.49), 0.6017	0.78 (0.63, 0.93), 0.0064	

Supplemental Table XIV Legend:
Model 1: age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol intake, diabetes, hormone replacement therapy and estimated glomerular filtration rate, dietary sodium
Model 2: Model 1 + renin or aldosterone (mutually adjusted model).

Abbreviations: ARR = aldosterone:renin ratio, OR = odds ratio, CI = confidence interval
Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.

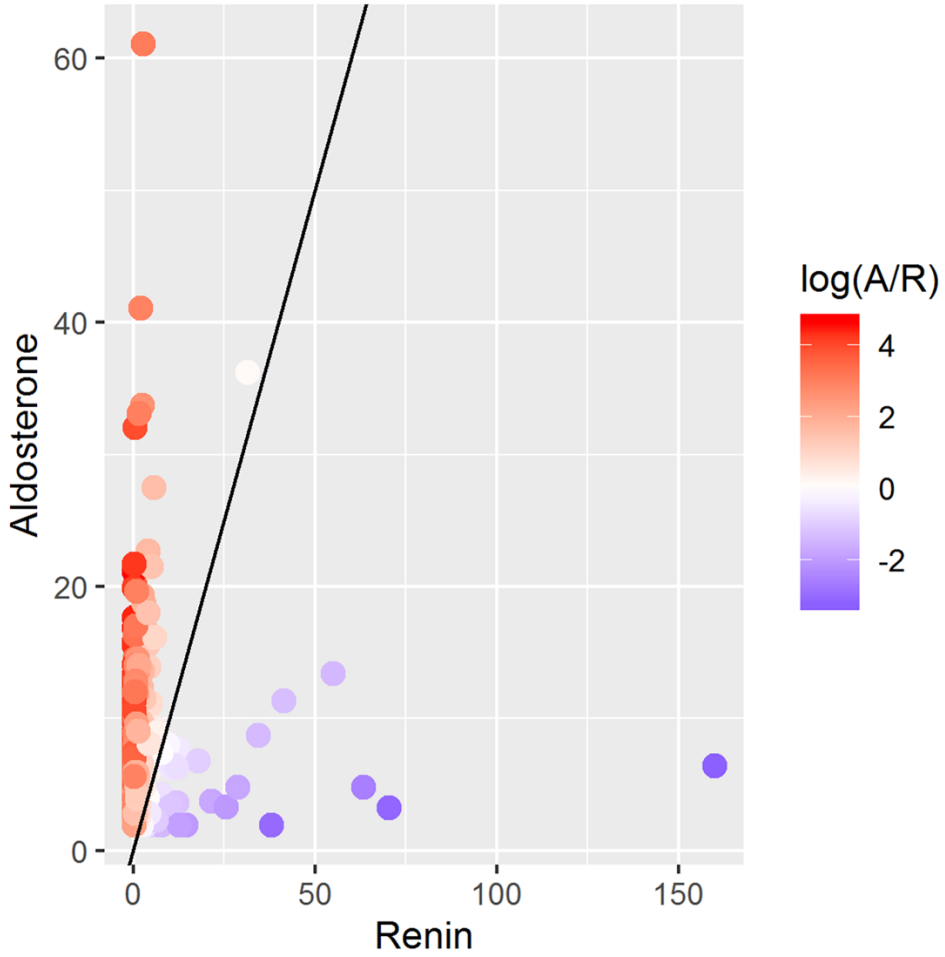
Interpretation Example:
Clinic Hypertension – a 1-unit higher log-aldosterone was associated with 27% higher odds of clinic hypertension; a 1-unit higher log-plasma renin activity was associated with a 34% lower odds of clinic hypertension; a 1-unit higher log-aldosterone:renin ratio was associated with a 47% higher odds of clinic hypertension

Supplemental Figure I: Conceptual Diagram



Abbreviations: mmHg = millimeters of mercury, Na+ = sodium ion, K+ = potassium ion, ACE = angiotensin-converting enzyme, SNS = sympathetic nervous system

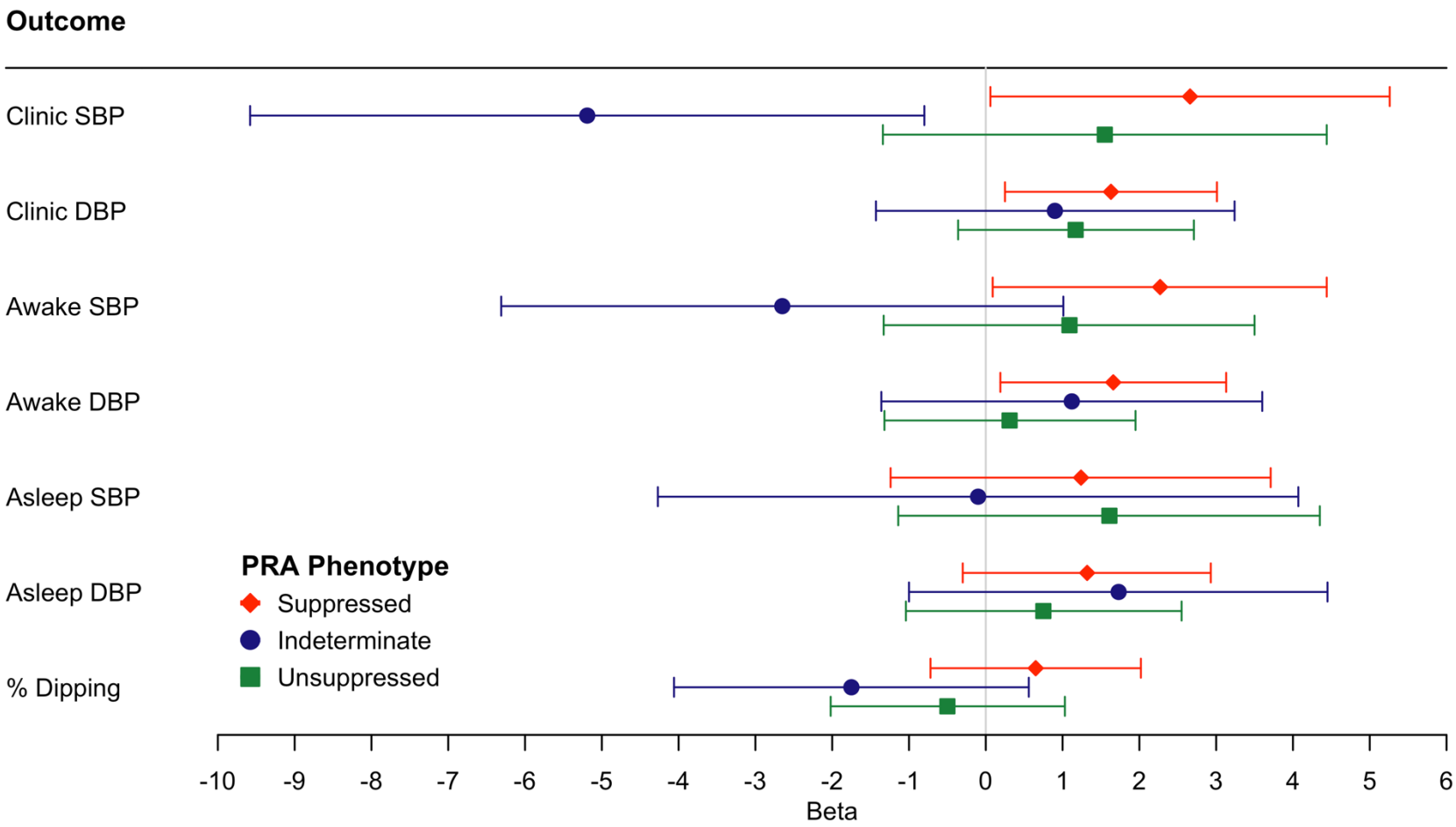
Supplemental Figure II: Aldosterone to renin ratio by aldosterone and plasma renin activity values



Supplemental Figure II Legend: A/R is the Aldosterone to Renin ratio, Units of aldosterone are ng/dl, units for plasma renin activity are ng/ml/hr

Interpretation: Data points were represented by colors where the highest value of log(A/R) was bright red, the mid-range values were white and the lowest value of log(A/R) are bright purple. The clustering of the high log(A/R) values around the zero point for plasma renin activity indicates that the log(A/R) is driven primarily by low plasma renin activity values.

Supplemental Figure III: The Association of Aldosterone with Clinic, Daytime, and Nighttime Systolic Blood Pressure, Diastolic Blood Pressure and Percent Dipping Stratified by Plasma Renin Activity Phenotypes



Supplemental Figure III Legend:

Model adjusted for age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate (Supplemental Table X, Model 1)

Suppressed Renin Phenotype is defined as plasma renin activity ≤ 0.50 ng/ml/hr; Indeterminate Renin Phenotype is defined as plasma renin activity between 0.51 and 0.99 ng/ml/hr; Unsuppressed Renin Phenotype is defined as plasma renin activity ≥1.0 ng/ml/hr.

Abbreviations: SBP = systolic blood pressure; DBP = diastolic blood pressure, PRA = plasma renin activity

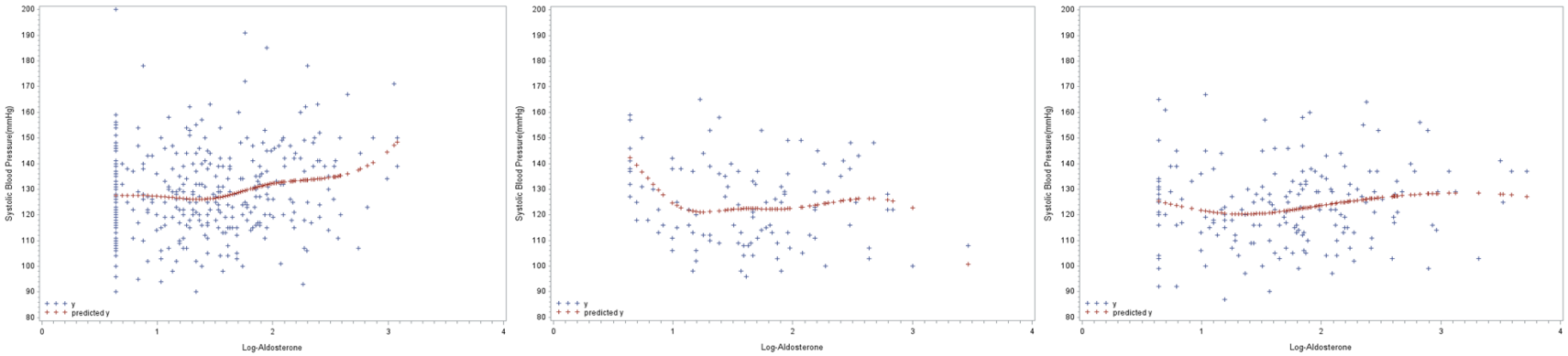
Beta to mmHg Conversion: Beta*ln(2)

Supplemental Figure IV: Splines of Aldosterone vs Clinic Systolic Blood Pressure Stratified by Plasma Renin Activity (PRA) Phenotype

Suppressed Renin Phenotype.
(PRA ≤0.50 ng/mL/h)

Indeterminate Renin Phenotype.
(PRA 0.51-0.99 ng/mL/h)

Unsuppressed Renin Phenotype
(PRA ≥1.0 ng/mL/h)

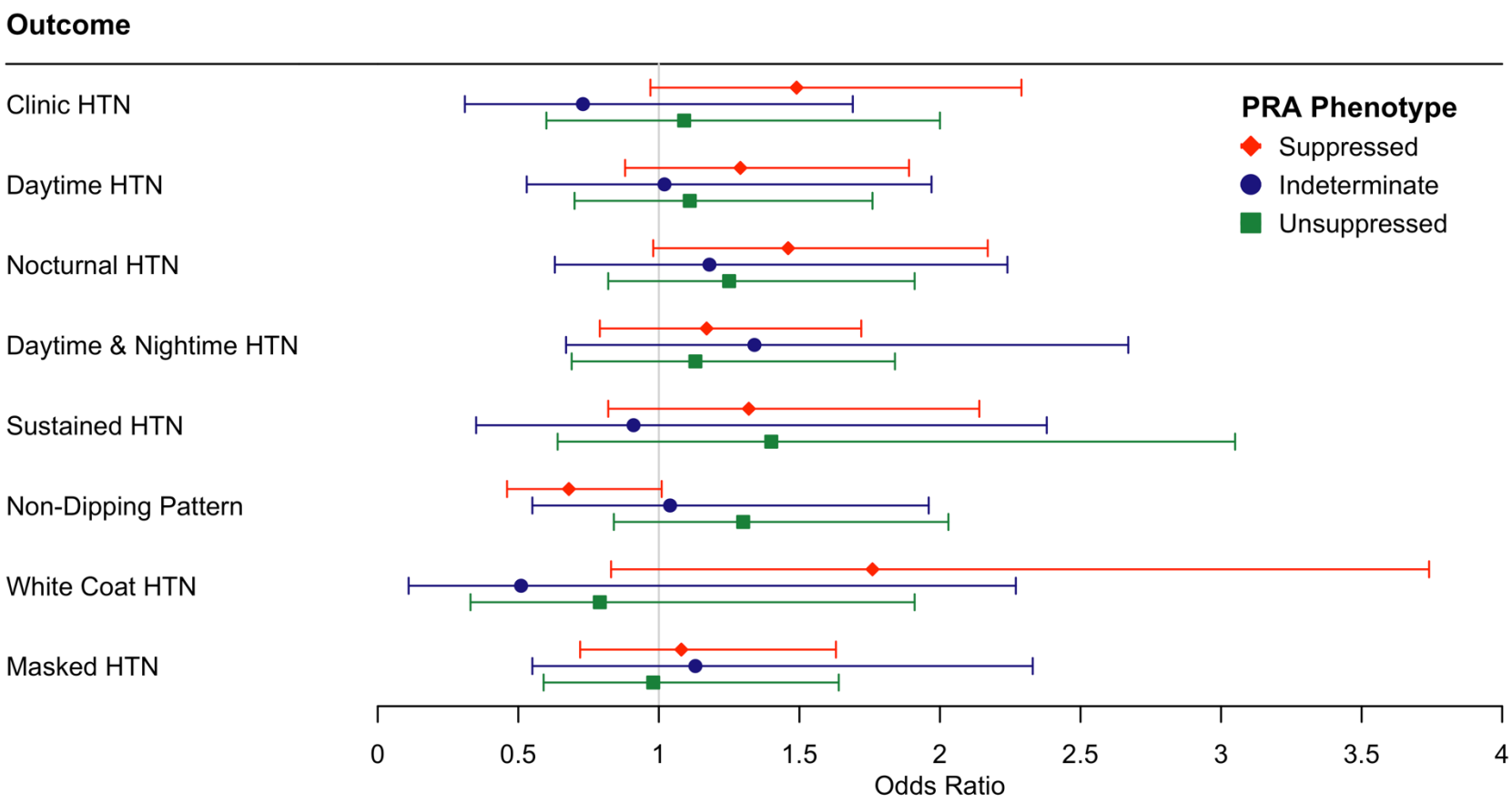


Supplemental Figure IV Legend:

Spline analyses of aldosterone vs clinic systolic blood pressure stratified by renin phenotype: the red points are the best fit values of systolic blood pressure for given aldosterone values

Interpretation: As aldosterone values increase in the suppressed renin phenotype, the expected best fit value for systolic blood pressure increases.

Supplemental Figure V: The Association of Aldosterone with Ambulatory Blood Pressure Phenotypes Stratified by Plasma Renin Activity Phenotypes



Supplemental Figure V Legend:
Model adjusted for age, sex, education and occupation, smoking, waist circumference, physical activity, low-density lipoprotein, history of cardiovascular disease, alcohol, diabetes, hormone replacement therapy and estimated glomerular filtration rate (Supplemental Table XI, Model 1)

Suppressed Renin Phenotype is defined as plasma renin activity less than 0.50 ng/ml/hr; Indeterminate Renin Phenotype is defined as plasma renin activity between 0.51 and 0.99 ng/ml/hr; Unsuppressed Renin Phenotype is defined as plasma renin activity $\geq$1.0 ng/ml/hr.

Abbreviations: HTN = hypertension; PRA = plasma renin activity

Clinic Hypertension = clinic SBP ≥140 mmHg or clinic DBP ≥90 mmHg; Daytime Hypertension = daytime SBP ≥ 135 mmHg or daytime DBP ≥85 mmHg, Nocturnal Hypertension = night-time SBP ≥ 120 mmHg or night-time DBP ≥ 70 mmHg; Daytime & Nocturnal hypertension = combination of Daytime and Nocturnal Hypertension; Sustained hypertension = combination of Clinic and Daytime Hypertension; Non-Dipping Pattern = <10% decrease in mean awake vs mean asleep SBP; White Coat Hypertension = absence of Daytime Hypertension with presence of Clinic Hypertension, Masked Hypertension = presence of Daytime Hypertension with absence of Clinic Hypertension.