

Supplemental Table 1. Definitions of clinic and ambulatory blood pressure monitoring phenotypes.

Phenotype	Clinic BP Measurements	ABPM Measurements
Phenotype determined using clinic BP only		
Clinic hypertension	Mean SBP \geq 140 mmHg or DBP \geq 90 mmHg	N/A
Phenotypes determined using ABPM only		
Daytime hypertension	N/A	Mean daytime SBP \geq 135 mmHg or DBP \geq 85 mmHg
Nocturnal hypertension	N/A	Mean nighttime SBP \geq 120 mmHg or DBP \geq 70 mmHg
24-hour hypertension	N/A	Mean 24-hour hypertension \geq 130/80 mmHg
Phenotypes determined using clinic BP and ABPM		
Sustained hypertension	Mean SBP \geq 140 mmHg or DBP \geq 90 mmHg	Mean daytime SBP \geq 135 mmHg or DBP \geq 85 mmHg
White coat hypertension [†]	Mean SBP \geq 140 mmHg or DBP \geq 90 mmHg	Mean daytime SBP < 135 mmHg and DBP < 85 mmHg
Masked hypertension ^{††}	Mean SBP < 140 mmHg and DBP < 90 mmHg	Mean daytime SBP \geq 135 mmHg or DBP \geq 85 mmHg

N/A – not applicable as the criterion is not used in determining the presence of a phenotype.

BP: blood pressure.

SBP: systolic blood pressure.

DBP: diastolic blood pressure.

ABPM: ambulatory blood pressure monitoring.

Non-dipping pattern was defined as a nocturnal decline in systolic blood pressure \leq 10%

Nocturnal systolic blood pressure dipping ratio was dichotomized to \leq 0.80, >0.80 to 0.90, >0.90 to 1.00, and >1.00.

[†] Analyses of white coat hypertension were restricted to participants with clinic hypertension (mean SBP \geq 140 mmHg or DBP \geq 90 mmHg).

^{††} Analyses of masked hypertension were restricted to participants without clinic hypertension (mean SBP < 140 mmHg and DBP < 90 mmHg).

Supplemental Table 2. Mean clinic, daytime, nighttime, and 24-hour systolic blood pressure (top panel) and diastolic blood pressure (bottom panel) among participants not taking and taking antihypertensive medication.

	Systolic blood pressure, mm Hg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Clinic	Daytime	Nighttime	24-hour	Clinic	Daytime	Nighttime	24-hour
Overall	124.5 (15.7)	127.1 (12.8)	117.1 (14.0)	123.3 (12.7)	130.0 (15.6)	131.2 (13.6)	123.9 (16.2)	128.6 (13.9)
Age group, years								
<45	117.8 (13.2)	121.5 (10.3)	110.3 (10.2)	117.1 (9.8)	124.8 (8.9)	129.9 (13.1)	119.4 (12.2)	126.0 (12.3)
45-64	124.0 (15.0)	126.8 (12.6)	117.1 (14.2)	123.2 (12.7)	129.1 (15.2)	129.9 (13.4)	122.0 (15.8)	127.1 (13.6)
≥ 65	132.5 (16.4)	133.2 (13.0)	123.9 (13.6)	129.5 (12.5)	131.9 (16.6)	133.1 (13.8)	127.0 (16.7)	130.8 (14.1)
Male	126.8 (16.8)	129.1 (12.2)	118.2 (12.9)	125.1 (11.9)	131.0 (17.1)	134.3 (13.9)	127.5 (15.6)	131.8 (14.0)
Female	123.2 (14.9)	125.9 (12.9)	116.5 (14.6)	122.2 (13.1)	129.6 (15.0)	130.0 (13.3)	122.4 (16.2)	127.3 (13.6)
Clinic blood pressure, mmHg								
SBP/DBP < 120/80	110.6 (6.5)	119.7 (8.8)	110.0 (10.9)	115.9 (9.1)	112.1 (5.7)	124.4 (11.7)	116.3 (14.5)	121.5 (12.1)
SBP/DBP 120-139/80-89	127.3 (6.1)	128.9 (10.9)	118.9 (12.3)	125.0 (10.8)	129.2 (6.0)	130.5 (12.3)	122.8 (14.9)	127.6 (12.2)
SBP/DBP ≥ 140/90	151.3 (15.5)	139.9 (14.7)	129.9 (15.8)	136.4 (14.2)	151.6 (10.4)	140.4 (13.5)	134.6 (15.3)	138.7 (12.6)
	Diastolic blood pressure, mm Hg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Clinic	Daytime	Nighttime	24-hour	Clinic	Daytime	Nighttime	24-hour
Overall	74.6 (8.4)	78.2 (8.9)	67.7 (9.2)	74.1 (8.5)	74.3 (8.5)	77.6 (9.4)	68.8 (10.1)	74.1 (9.1)
Age group, years								
<45	76.3 (8.4)	78.3 (7.9)	65.3 (8.4)	73.2 (7.7)	77.4 (8.3)	83.4 (10.7)	72.2 (10.5)	79.0 (10.4)
45-64	74.9 (8.5)	78.9 (9.0)	68.7 (9.3)	75.0 (8.6)	75.8 (8.5)	78.9 (9.1)	69.3 (10.0)	75.2 (8.7)
≥ 65	72.1 (7.8)	76.3 (9.5)	67.5 (9.3)	72.6 (8.9)	71.7 (7.9)	75.0 (8.9)	67.6 (10.0)	72.0 (8.8)
Male	76.5 (9.0)	81.4 (8.6)	70.4 (8.7)	77.2 (8.0)	75.4 (8.8)	81.6 (9.4)	74.3 (10.2)	78.9 (9.2)
Female	73.5 (7.9)	76.4 (8.6)	66.2 (9.1)	72.3 (8.3)	73.8 (8.4)	76.0 (9.0)	66.7 (9.2)	72.3 (8.3)
Clinic blood pressure, mmHg								
SBP/DBP < 120/80	69.6 (6.2)	74.8 (6.9)	64.1 (7.4)	70.6 (6.5)	67.8 (6.5)	74.8 (8.7)	65.8 (9.4)	71.4 (8.3)
SBP/DBP 120-139/80-89	75.9 (6.8)	79.3 (8.6)	69.0 (8.8)	75.2 (8.0)	75.3 (7.1)	78.1 (9.3)	68.8 (10.0)	74.3 (8.9)
SBP/DBP ≥ 140/90	82.9 (10.1)	83.4 (11.2)	72.8 (11.2)	79.4 (10.8)	79.3 (9.1)	79.4 (9.8)	72.3 (9.9)	76.8 (9.3)

Numbers in table are mean (standard deviation).

SBP: Systolic blood pressure.

DBP: Diastolic blood pressure.

Supplemental Table 3. Systolic and diastolic white coat effects among participants with systolic/diastolic blood pressure $\geq 140/90$ mm Hg not taking (left panel) and taking (right panel) antihypertensive medication.

	Systolic blood pressure, mmHg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Mean (SD) Clinic	Mean (SD) Daytime	White coat effect (SD)	p-value	Mean (SD) Clinic	Mean (SD) Daytime	White coat effect (SD)	p-value
Overall	151.3 (15.5)	139.9 (14.7)	11.4 (19.7)	<0.001	151.6 (10.4)	140.4 (13.5)	11.2 (15.1)	<0.001
Age group, years								
<45	147.7 (15.8)	137.4 (10.6)	10.3 (15.0)	0.121	N/A	N/A	N/A	N/A
45-64	150.0 (13.7)	139.8 (16.1)	10.2 (15.7)	0.001	151.2 (10.1)	137.6 (13.3)	13.6 (15.8)	<0.001
≥ 65	154.7 (18.1)	140.9 (13.9)	13.8 (26.6)	0.028	152.2 (10.7)	142.7 (13.1)	9.4 (13.6)	<0.001
P-interaction				0.562				0.358
Male	152.8 (17.9)	141.4 (13.6)	11.4 (25.1)	0.019	152.7 (12.7)	141.4 (14.3)	11.2 (15.3)	<0.001
Female	149.9 (13.0)	138.5 (15.7)	11.4 (13.5)	<0.001	151.0 (9.1)	139.8 (13.1)	11.3 (15.0)	<0.001
P-interaction				0.991				0.969
	Diastolic blood pressure, mmHg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Mean (SD) Clinic	Mean (SD) Daytime	White coat effect (SD)	p-value	Mean (SD) Clinic	Mean (SD) Daytime	White coat effect (SD)	p-value
Overall	82.9 (10.1)	83.4 (11.2)	-0.5 (12.1)	0.770	79.3 (9.1)	79.4 (9.8)	-0.1 (10.0)	0.899
Age group, years								
<45	93.3 (3.4)	86.6 (6.6)	6.7 (7.7)	0.059	N/A	N/A	N/A	N/A
45-64	85.4 (7.9)	85.9 (10.4)	-0.5 (10.6)	0.769	83.6 (7.5)	82.0 (9.3)	1.6 (10.7)	0.235
≥ 65	75.4 (9.9)	78.1 (12.3)	-2.7 (15.0)	0.419	75.0 (8.6)	76.7 (9.5)	-1.7 (9.2)	0.142
P-interaction				0.108				0.099
Male	86.0 (9.2)	87.6 (10.1)	-1.6 (14.5)	0.560	81.7 (10.1)	82.4 (8.9)	-0.7 (9.5)	0.619
Female	80.1 (10.2)	79.6 (11.0)	0.6 (9.7)	0.743	78.1 (8.5)	78.0 (10.0)	0.2 (10.3)	0.865
P-interaction				0.494				0.628

SD: standard deviation.

White-coat effect calculated for participants (n=196) with clinic systolic blood pressure/diastolic blood pressure $\geq 140/90$ mmHg.

There was only one participant taking antihypertensive medication under 45 years of age.

P-interaction assessed trends in the white coat effect across age and differences in the white coat effect by sex.

Supplemental Table 4. Systolic and diastolic masked effects among participants with systolic/diastolic blood pressure < 140/90 mm Hg not taking (left panel) and taking (right panel) antihypertensive medication.

	Systolic blood pressure, mmHg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Mean (SD) Clinic	Mean (SD) Daytime	Masked effect	p-value	Mean (SD) Clinic	Mean (SD) Daytime	Masked effect	p-value
Overall	120.0 (10.4)	124.9 (11.1)	4.9 (10.5)	<0.001	123.5 (10.0)	128.4 (12.4)	5.0 (13.8)	<0.001
Age group, years								
<45	115.4 (9.5)	120.2 (9.1)	4.8 (9.5)	<0.001	124.4 (8.7)	128.9 (11.8)	4.5 (12.0)	0.044
45-64	119.8 (10.3)	124.7 (10.5)	4.9 (10.5)	<0.001	123.2 (10.1)	127.9 (12.7)	4.7 (14.1)	<0.001
≥ 65	126.2 (8.7)	130.9 (11.9)	4.8 (11.8)	0.001	123.6 (10.2)	129.1 (12.1)	5.5 (13.6)	<0.001
P-interaction				0.972				0.546
Male	120.9 (9.3)	126.3 (10.0)	5.4 (10.2)	<0.001	122.8 (9.8)	131.6 (12.8)	8.8 (13.4)	<0.001
Female	119.6 (10.9)	124.2 (11.5)	4.6 (10.7)	<0.001	123.7 (10.1)	127.3 (12.1)	3.6 (13.6)	<0.001
P-interaction				0.489				<0.001
	Diastolic blood pressure, mmHg							
	Not taking antihypertensive medication				Taking antihypertensive medication			
	Mean (SD) Clinic	Mean (SD) Daytime	Masked effect	p-value	Mean (SD) Clinic	Mean (SD) Daytime	Masked effect	p-value
Overall	73.2 (7.3)	77.4 (8.2)	4.2 (9.1)	<0.001	72.8 (7.7)	77.0 (9.2)	4.3 (9.7)	<0.001
Age group, years								
<45	74.9 (7.1)	77.6 (7.7)	2.7 (6.9)	<0.001	77.0 (8.1)	83.0 (10.6)	6.0 (11.2)	0.005
45-64	73.2 (7.3)	77.8 (8.3)	4.6 (9.7)	<0.001	73.8 (7.6)	78.1 (8.8)	4.3 (9.9)	<0.001
≥ 65	71.2 (6.8)	75.8 (8.5)	4.6 (9.3)	<0.001	70.4 (7.2)	74.2 (8.6)	3.8 (9.2)	<0.001
P-interaction				0.167				0.297
Male	74.3 (7.5)	80.0 (7.6)	5.8 (9.8)	<0.001	73.0 (7.0)	81.3 (9.6)	8.3 (9.9)	<0.001
Female	72.6 (7.1)	75.9 (8.2)	3.3 (8.6)	<0.001	72.7 (8.0)	75.5 (8.6)	2.8 (9.3)	<0.001
P-interaction				0.012				<0.001

SD: standard deviation.

Masked effect calculated for participants (n=820) with clinic systolic blood pressure/diastolic blood pressure < 140/90 mmHg.

P-interaction assessed trends in the masked effect across age and differences in the masked effect by sex.

Supplemental Table 5. Prevalence of non-dipping blood pressure and dipping ratio categories for participant not taking antihypertensive medication (top panel) and taking antihypertensive medication (bottom panel).

	Dipping		Dipping ratio categories			
	No	Yes	≤0.80	>0.80 to 0.90	>0.90 to 1.00	>1.00
Not taking antihypertensive medication						
Overall	62.4 (57.7-66.9)	37.6 (33.1-42.4)	3.0 (1.6-5.0)	34.7 (30.3-39.3)	51.9 (47.2-56.7)	10.4 (7.7-13.7)
Age groups, years						
<45	55.9 (45.2-66.2)	44.1 (33.8-54.8)	1.1 (0.0-5.9)	43.0 (32.8-53.7)	49.5 (38.9-60.0)	6.5 (2.4-13.5)
45-64	64.8 (58.6-70.7)	35.2 (29.3-41.4)	4.0 (1.9-7.2)	31.2 (25.6-37.3)	53.8 (47.4-60.0)	11.1 (7.5-15.6)
≥ 65	62.1 (51.6-71.9)	37.9 (28.1-48.4)	2.1 (0.3-7.4)	35.8 (26.2-46.3)	49.5 (39.1-59.9)	12.6 (6.7-21.0)
Male	62.4 (54.4-69.8)	37.7 (30.2-45.6)	3.7 (1.4-7.9)	34.0 (26.7-41.8)	56.2 (48.2-64.0)	6.2 (3.0-11.1)
Female	62.4 (56.4-68.1)	37.6 (31.9-43.6)	2.5 (1.0-5.1)	35.1 (29.5-41.0)	49.5 (43.5-55.5)	12.9 (9.2-17.4)
Clinic BP, mmHg						
SBP/DBP < 120/80	61.6 (53.7-69.1)	38.4 (30.9-46.3)	3.1 (1.0-7.0)	35.4 (28.1-43.2)	52.4 (44.5-60.3)	9.2 (5.2-14.6)
SBP/DBP 120-139/80-89	62.2 (55.3-68.7)	37.9 (31.3-44.7)	2.8 (1.0-6.0)	35.1 (28.7-41.9)	50.9 (44.0-57.8)	11.2 (7.3-16.2)
SBP/DBP ≥ 140/90	65.1 (52.0-76.7)	34.9 (23.3-48.0)	3.2 (0.4-11.0)	31.8 (20.6-44.7)	54.0 (40.9-66.6)	11.1 (4.6-21.6)
Taking antihypertensive medication						
Overall	69.6 (65.6-73.3)	30.4 (26.7-34.4)	4.7 (3.1-6.8)	25.7 (22.2-29.5)	45.7 (41.6-49.9)	23.8 (20.4-27.5)
Age groups, %						
<45 years	60.6 (42.1-77.1)	39.4 (22.9-57.9)	3.0 (0.1-15.8)	36.4 (20.4-54.9)	45.5 (28.1-63.7)	15.2 (5.1-31.9)
45-64 years	66.8 (61.2-72.0)	33.2 (28.0-38.8)	4.5 (2.5-7.5)	28.7 (23.7-34.1)	44.8 (39.2-50.6)	21.9 (17.5-27.0)
≥ 65 years	74.6 (68.5-80.0)	25.4 (20.0-31.5)	5.2 (2.7-8.9)	20.3 (15.3-26.0)	47.0 (40.4-53.6)	27.6 (21.9-33.8)
Male	73.9 (66.4-80.5)	26.1 (26.1-73.9)	2.5 (0.7-6.2)	23.6 (17.3-30.9)	50.3 (42.3-58.3)	23.6 (17.3-30.9)
Female	67.9 (63.1-72.4)	32.1 (27.7-36.9)	5.6 (3.6-8.2)	26.6 (22.4-31.1)	44.0 (39.1-48.9)	23.9 (19.9-28.3)
Clinic BP, mmHg						
SBP/DBP < 120/80	65.1 (56.9-72.7)	34.9 (27.3-43.1)	4.7 (1.9-9.4)	30.2 (23.0-38.3)	44.3 (36.2-52.7)	20.8 (14.6-28.2)
SBP/DBP 120-139/80-89	68.3 (62.6-73.6)	31.7 (26.5-37.4)	5.8 (3.4-9.1)	25.9 (21.0-31.4)	44.4 (38.6-50.3)	23.9 (19.1-29.2)
SBP/DBP ≥ 140/90	77.4 (69.4-84.2)	22.6 (15.8-30.6)	2.3 (0.5-6.5)	20.3 (15.8-30.6)	50.4 (41.6-59.2)	27.1 (19.7-35.5)

Numbers in table are percentage (95% confidence interval).

Dipping blood pressure defined as a decline in SBP from daytime to nighttime > 10%.

BP: blood pressure; SBP: systolic blood pressure; DBP: diastolic blood pressure.

The prevalence of dipping ratio categories ≤0.80 and >0.80 to 0.90 may not sum to the dipping category and the prevalence of dipping ratio categories >0.90 to 1.00 and >1.00 may not sum to the no dipping category due to rounding.