2017 ACC/AHA Blood Pressure Guideline treatment recommendations and risk for

cardiovascular events and all-cause mortality

Online material

Lisandro D Colantonio,[1] MD PhD, John N Booth III,[1] PhD, Adam P Bress,[2] PharmD MS, Paul K

Whelton,[3] MB MD MSc, Daichi Shimbo,[4] MD, Emily B Levitan,[1] PhD, George Howard,[5] DrPh,

Monika M Safford,[6] MD, Paul Muntner,[1] PhD

[1] Department of Epidemiology, University of Alabama at Birmingham, Birmingham AL

[2] Department of Population Health Sciences, University of Utah, Salt Lake City UT

[3] Department of Epidemiology, Tulane University, New Orleans LA

[4] Department of Medicine, Columbia University, New York NY

[5] Department of Biostatistics, University of Alabama at Birmingham, Birmingham AL

[6] Department of Medicine, Weill Cornell Medical College, New York NY

Corresponding author:

Lisandro D. Colantonio, 1700 University Blvd, LHL 442, Birmingham, AL 35294-0013, Phone:

205-259-6415, Fax: 205-975-7058, Email: lcolantonio@uab.edu.

Online Table 1. Definitions for baseline characteristics.

Baseline characteristics	Definitions
Region of residence	Stroke buckle includes coastal North Carolina, South Carolina and Georgia. Stroke belt includes the remaining parts of North Carolina, South Carolina and Georgia, and Tennessee, Mississippi, Alabama, Louisiana and Arkansas. Other US regions includes the remaining 40 contiguous US states and the District of Columbia.
History of cardiovascular disease	Any of the following: (1) a self-reported history of stroke, myocardial infarction or coronary revascularization; (2) evidence of a previous myocardial infarction on the study electrocardiogram, or (3) use of one or more medications to treat heart failure based on the medication inventory, including: • Digoxin (if participants had no atrial fibrillation at baseline by self-report or based on the study electrocardiogram) • Carvedilol • Spironolactone • Hydralazine in combination with isosorbide mono- or di-nitrate • Loop diuretic (i.e., furosemide, bumetanide, torsemide) • Angiotensin-converting enzyme inhibitor or angiotensin II receptor blocker in combination with a beta-blocker (if participants had SBP <140 mm Hg, DBP <90 mm Hg and self-reported not taking medication to lower their blood pressure at baseline)
Diabetes	Fasting glucose ≥126 mg/dL, non-fasting glucose ≥200 mg/dL for those who did not fast (n=4,099), or self-report of a prior diagnosis of diabetes with current use of insulin or oral hypoglycemic medication
Chronic kidney disease	Self-report of being on dialysis, or a calculated estimated glomerular filtration rate <60 ml/min/1.73 m^2 or albumin-to-creatinine ratio ≥30 mg/g
Low body mass index	Body mass index <18.5 kg/m^2
Cognitive impairment	Calculated Six-item screener score ≤4 (1)
Depressive symptoms	Calculated score ≥4 on the Four-item Center for Epidemiological Studies Depression Scale (CES-D) (2)
Exhaustion	Replying "little of the time or none of the time" to the SF-12 question "how much of the time during the past 4 weeks did you have a lot of energy?" (3)
Impaired mobility	Replying "limited a lot" to the SF-12 question: "does your health now limit you in climbing several flights of stairs?" (3)
History of falls	Replying "yes" to the question "During the last year, have you had a fall? Do not include falls during skiing, skating or other activities that may affect balance" and replying "two or more" to the question "How many times have you fallen in the last year?"

DBP: diastolic blood pressure; SBP: systolic blood pressure; SF-12: 12-Item Short Form Survey.

Online Table 2. Blood pressure levels used to recommend pharmacological antihypertensive treatment initiation (top panel) and intensification (bottom panel) according to the 2017 ACC/AHA blood pressure guideline.

	SBP, mm Hg	DBP, mm Hg
Adults not taking antihypertensive medication - antihypertensive treatment initiation		
General population	≥140	≥90
Diabetes or CKD	≥130	≥80
History of CVD or 10-year CVD risk ≥10%*	≥130	≥80
Age ≥65 years	≥130	†
Adults taking antihypertensive medication – antihypertensive treatment intensification		
General population <65 years of age	≥130	≥80
General population ≥65 years of age	≥130	†
Diabetes or CKD	≥130	≥80
History of CVD or 10-year CVD risk ≥10%*	≥130	≥80

ACC: American College of Cardiology; AHA: American Heart Association; CKD: chronic kidney disease; CVD: cardiovascular disease; DBP: diastolic blood pressure; SBP: systolic blood pressure.

In the top panel, adults with SBP or DBP above or equal to the levels listed are recommended antihypertensive medication initiation.

In the bottom panel, adults with SBP or DBP above or equal to the levels listed are recommended antihypertensive medication intensification.

* The 10-year predicted CVD risk is calculated using the Pooled Cohort risk equations (4).
† No specific DBP threshold is provided in the guideline for adults ≥65 years of age. The other DBP thresholds listed from the guideline should be applied, as appropriate.

Online Table 3. Baseline characteristics of REGARDS study participants not taking antihypertensive medication with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg according to their recommendation for pharmacological treatment initiation by the 2017 ACC/AHA blood pressure guideline.

Characteristics	Recommended pharmacological antihypertensive medication initiation*	
	No	Yes
N	1,567	2,632
Age, years, mean (SD)	56.7 (5.7)	67.8 (8.8)
Male, n (%)	612 (39.1)	1,590 (60.4)
Black, n (%)	596 (38.0)	885 (33.6)
Geographic region of residence, n (%)		
Stroke belt[†]	521 (33.2)	851 (32.3)
Stroke buckle[‡]	327 (20.9)	479 (18.2)
Other US regions[§]	719 (45.9)	1,302 (49.5)
Less than high school education, n (%)	87 (5.6)	331 (12.6)
Current smoking, n (%)	148 (9.4)	445 (17.0)
SBP, mm Hg, mean (SD)	125.3 (8.4)	129.7 (7.1)
DBP, mm Hg, mean (SD)	81.3 (3.8)	78.9 (6.2)
Total cholesterol, mg/dL, mean (SD)	201.8 (36.9)	195.9 (40.4)
HDL cholesterol, mg/dL, mean (SD)	55.3 (15.7)	49.8 (15.6)
Statin use, n (%)	223 (14.3)	656 (25.0)
History of CVD or 10-year CVD risk ≥10%, n (%)	0 (0.0)	2,278 (86.6)
Age ≥65 years with SBP ≥130 mm Hg, n (%)	0 (0.0)	1,196 (45.4)
Diabetes, n (%)	0 (0.0)	538 (20.9)
Chronic kidney disease, n (%)	0 (0.0)	590 (22.6)
Frailty indicators, n (%)		
Depressive symptoms	147 (9.5)	209 (8.0)
Low body mass index	7 (0.4)	21 (0.8)
Cognitive impairment	59 (4.4)	185 (9.4)
Exhaustion	132 (8.4)	274 (10.4)
Impaired mobility	122 (7.8)	343 (13.0)
History of falls	69 (4.4)	172 (6.5)

ACC: American College of Cardiology; AHA: American Heart Association; CVD: cardiovascular disease; DBP: diastolic blood pressure; HDL: high-density lipoprotein; REGARDS: REasons for Geographic and Racial Differences in Stroke; SBP: systolic blood pressure; SD: standard deviation; US: United States.

* Recommendations for antihypertensive medication initiation according to the 2017 ACC/AHA blood pressure guideline include SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg with diabetes, chronic kidney disease, a history of CVD or a 10-year predicted CVD risk ≥10%, or age ≥65 years with SBP ≥130 mm Hg.

[†] Stroke buckle includes coastal North Carolina, South Carolina and Georgia.

[‡] Stroke belt includes the remaining parts of the stroke buckle states and Tennessee, Mississippi, Alabama, Louisiana and Arkansas.

[§] Other US regions includes the remaining 40 contiguous US states and the District of Columbia.

Online Table 4. Rates of CVD events and all-cause mortality among 14,039 REGARDS study participants not taking antihypertensive medication by blood pressure category and recommendation for pharmacological antihypertensive treatment initiation stratified by gender and race.

	CVD events		All-cause mortality	
	Events / Person-years	Rate (95% CI) per 1,000 person-years	Events / Person-years	Rate (95% CI) per 1,000 person-years
Men				
SBP/DBP, mm Hg*				
<130 and <80	358 / 24,987	14.3 (12.8, 15.8)	625 / 26,111	23.9 (22.1, 25.8)
130-139 or 80-89	293 / 16,987	17.2 (15.3, 19.2)	408 / 17,885	22.8 (20.6, 25.0)
≥140 or ≥90	224 / 8,469	26.4 (23.0, 29.9)	347 / 9,077	38.2 (34.2, 42.3)
Recommendation for antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	19 / 5,023	3.8 (2.1, 5.5)	25 / 5,081	4.9 (3.0, 6.8)
Recommended	274 / 11,964	22.9 (20.2, 25.6)	383 / 12,804	29.9 (26.9, 32.9)
Women				
SBP/DBP, mm Hg*				
<130 and <80	241 / 33,593	7.2 (6.3, 8.1)	434 / 34,290	12.7 (11.5, 13.8)
130-139 or 80-89	151 / 15,146	10.0 (8.4, 11.6)	266 / 15,580	17.1 (15.0, 19.1)
≥140 or ≥90	132 / 7,242	18.2 (15.1, 21.3)	204 / 7,652	26.7 (23.0, 30.3)
Recommendation for antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	24 / 7,592	3.2 (1.9, 4.4)	36 / 7,658	4.7 (3.2, 6.2)
Recommended	127 / 7,554	16.8 (13.9, 19.7)	230 / 7,922	29.0 (25.3, 32.8)
Blacks				
SBP/DBP, mm Hg*				
<130 and <80	143 / 13,995	10.2 (8.5, 11.9)	300 / 14,427	20.8 (18.4, 23.1)
130-139 or 80-89	122 / 10,977	11.1 (9.1, 13.1)	246 / 11,287	21.8 (19.1, 24.5)
≥140 or ≥90	130 / 6,466	20.1 (16.6, 23.6)	214 / 6,853	31.2 (27.0, 35.4)
Recommendation for antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	9 / 4,588	2.0 (0.7, 3.2)	22 / 4,613	4.8 (2.8, 6.8)
Recommended	113 / 6,389	17.7 (14.4, 20.9)	224 / 6,674	33.6 (29.2, 38.0)

	Whites			
SBP/DBP, mm Hg*				
<130 and <80	456 / 44,586	10.2 (9.3, 11.2)	759 / 45,973	16.5 (15.3, 17.7)
130-139 or 80-89	322 / 21,157	15.2 (13.6, 16.9)	428 / 22,178	19.3 (17.5, 21.1)
≥140 or ≥90	226 / 9,244	24.4 (21.3, 27.6)	337 / 9,876	34.1 (30.5, 37.8)
Recommendation for antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	34 / 8,027	4.2 (2.8, 5.7)	39 / 8,126	4.8 (3.3, 6.3)
Recommended	288 / 13,129	21.9 (19.4, 24.5)	389 / 14,052	27.7 (24.9, 30.4)

ACC: American College of Cardiology; AHA: American Heart Association; CVD: cardiovascular disease; REGARDS: REasons for Geographic and Racial Differences in Stroke.

* Blood pressure categories are mutually exclusive. Participants whose SBP and DBP correspond to two separate categories were assigned to the higher blood pressure group.

[†] Analyses of the recommendation for antihypertensive medication initiation were restricted to participants with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg. Recommendations for antihypertensive medication initiation according to the 2017 ACC/AHA blood pressure guideline include SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg with diabetes, chronic kidney disease, a history of CVD or a 10-year predicted CVD risk ≥10%, or age ≥65 years with SBP ≥130 mm Hg. All participants with SBP ≥140 mm Hg or DBP ≥90 mm Hg are recommended antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline.

The median follow-up for CVD events was 8.3 years (maximum 11.9 years). The median follow-up for all-cause mortality was 8.5 years (maximum 11.9 years).

Online Table 5. Baseline characteristics of REGARDS study participants taking antihypertensive medication by blood pressure categories.

Characteristics	SBP/DBP, mm Hg*		
	<130 and <80	130-139 or 80-89	≥140 or ≥90
n	5,586	5,089	4,504
Age, years, mean (SD)	66.2 (9.2)	65.7 (8.9)	66.8 (9.0)
Male, n (%)	2,188 (39.2)	2,249 (44.2)	2,072 (46.0)
Black, n (%)	2,474 (44.3)	2,588 (50.9)	2,598 (57.7)
Geographic region of residence, n (%)			
Stroke belt[†]	1,923 (34.4)	1,821 (35.8)	1,616 (35.9)
Stroke buckle[‡]	1,389 (24.9)	1,012 (19.9)	858 (19.0)
Other US regions[§]	2,274 (40.7)	2,256 (44.3)	2,030 (45.1)
Less than high school education, n (%)	754 (13.5)	742 (14.6)	852 (19.0)
Current smoking, n (%)	737 (13.2)	654 (12.9)	669 (14.9)
SBP, mm Hg, mean (SD)	117.3 (8.3)	129.9 (7.2)	150.5 (13.4)
DBP, mm Hg, mean (SD)	70.2 (6.5)	79.3 (6.2)	84.9 (10.4)
Total cholesterol, mg/dL, mean (SD)	183.7 (39.0)	187.5 (39.4)	191.5 (41.5)
HDL cholesterol, mg/dL, mean (SD)	50.4 (15.8)	50.6 (15.8)	50.9 (16.0)
Statin use, n (%)	2,425 (43.4)	2,111 (41.5)	1,698 (37.8)
History of CVD or 10-year CVD risk ≥10%, n (%)	3,899 (69.8)	3,936 (77.3)	3,983 (88.4)
Age ≥65 years with SBP ≥130 mm Hg, n (%)	0 (0.0)	1,978 (38.9)	2,577 (57.2)
Diabetes, n (%)	1,554 (28.8)	1,475 (29.7)	1,530 (35.1)
Chronic kidney disease, n (%)	1,451 (26.3)	1,382 (27.4)	1,663 (37.3)
Frailty indicators, n (%)			
Depressive symptoms	646 (11.6)	633 (12.5)	613 (13.7)
Low body mass index	41 (0.7)	18 (0.4)	36 (0.8)
Cognitive impairment	369 (8.0)	353 (8.6)	384 (10.9)
Exhaustion	944 (16.9)	854 (16.8)	850 (18.9)
Impaired mobility	1,164 (20.8)	1,096 (21.5)	1,018 (22.6)
History of falls	520 (9.3)	405 (8.0)	423 (9.4)

CVD: cardiovascular disease; DBP: diastolic blood pressure; HDL: high-density lipoprotein; REGARDS: REasons for Geographic and Racial Differences in Stroke; SBP: systolic blood pressure; SD: standard deviation; US: United States.

* Blood pressure categories are mutually exclusive. Participants whose SBP and DBP correspond to two separate categories were assigned to the higher blood pressure group.

[†] Stroke buckle includes coastal North Carolina, South Carolina and Georgia.

[‡] Stroke belt includes the remaining parts of the stroke buckle states and Tennessee, Mississippi, Alabama, Louisiana and Arkansas.

[§] Other US regions includes the remaining 40 contiguous US states and the District of Columbia.

Online Table 6. Baseline characteristics of REGARDS study participants taking antihypertensive medication with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg according to their recommendation for pharmacological treatment intensification by the 2017 ACC/AHA blood pressure guideline.

Characteristics	Recommended pharmacological antihypertensive medication intensification*	
	No	Yes
N	66	5,023
Age, years, mean (SD)	66.8 (2.0)	65.7 (8.9)
Male, n (%)	0 (0.0)	2,249 (44.8)
Black, n (%)	34 (51.5)	2,554 (50.8)
Geographic region of residence, n (%)		
Stroke belt[†]	14 (21.2)	1,807 (36.0)
Stroke buckle[‡]	13 (19.7)	999 (19.9)
Other US regions[§]	39 (59.1)	2,217 (44.1)
Less than high school education, n (%)	6 (9.1)	736 (14.7)
Current smoking, n (%)	0 (0.0)	654 (13.1)
SBP, mm Hg, mean (SD)	121.1 (5.6)	130.0 (7.1)
DBP, mm Hg, mean (SD)	81.8 (2.2)	79.3 (6.2)
Total cholesterol, mg/dL, mean (SD)	192.0 (34.3)	187.4 (39.5)
HDL cholesterol, mg/dL, mean (SD)	60.9 (13.9)	50.5 (15.8)
Statin use, n (%)	24 (36.4)	2,087 (41.6)
History of CVD or 10-year CVD risk ≥10%, n (%)	0 (0.0)	3,936 (78.4)
Age ≥65 years with SBP ≥130 mm Hg, n (%)	0 (0.0)	1,978 (39.4)
Diabetes, n (%)	0 (0.0)	1,475 (30.1)
Chronic kidney disease, n (%)	0 (0.0)	1,382 (27.8)
Frailty indicators, n (%)		
Depressive symptoms	9 (13.8)	624 (12.5)
Low body mass index	0 (0.0)	18 (0.4)
Cognitive impairment	1 (1.7)	352 (8.7)
Exhaustion	11 (16.7)	843 (16.8)
Impaired mobility	11 (16.7)	1,085 (21.6)
History of falls	2 (3.0)	403 (8.1)

ACC: American College of Cardiology; AHA: American Heart Association; CVD: cardiovascular disease; DBP: diastolic blood pressure; HDL: high-density lipoprotein; REGARDS: REasons for Geographic and Racial Differences in Stroke; SBP: systolic blood pressure; SD: standard deviation; US: United States.

* Recommendations for antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline include SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg with diabetes, chronic kidney disease, a history of CVD or a 10-year predicted CVD risk ≥10%, age <65 years, or age ≥65 years with SBP ≥130 mm Hg. Participants ≥65 years of age with SBP <130 mm Hg, DBP between 80 and 89 mm Hg and a 10-year predicted CVD risk <10% who do not have diabetes, chronic kidney disease or a history of CVD are not recommended antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline.

[†] Stroke buckle includes coastal North Carolina, South Carolina and Georgia.

[‡] Stroke belt includes the remaining parts of the stroke buckle states and Tennessee, Mississippi, Alabama, Louisiana and Arkansas.

[§] Other US regions includes the remaining 40 contiguous US states and the District of Columbia.

Online Table 7. Rates of CVD events and all-cause mortality among 15,179 REGARDS study participants taking antihypertensive medication by blood pressure category and recommendation for pharmacological antihypertensive treatment intensification stratified by gender and race.

	CVD events		All-cause mortality	
	Events / Person-years	Rate (95% CI) per 1,000 person-years	Events / Person-years	Rate (95% CI) per 1,000 person-years
Men				
SBP/DBP, mm Hg*				
<130 and <80	446 / 15,300	29.2 (26.4, 31.9)	682 / 16,533	41.3 (38.2, 44.3)
130-139 or 80-89	433 / 16,258	26.6 (24.1, 29.1)	622 / 17,591	35.4 (32.6, 38.1)
≥140 or ≥90	528 / 13,714	38.5 (35.2, 41.8)	742 / 15,154	49.0 (45.4, 52.5)
Recommendation for antihypertensive medication intensification by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended[‡]	-	-	-	-
Recommended	433 / 16,258	26.6 (24.1, 29.1)	622 / 17,591	35.4 (32.6, 38.1)
Women				
SBP/DBP, mm Hg*				
<130 and <80	358 / 24,987	14.3 (12.8, 15.8)	358 / 24,987	14.3 (12.8, 15.8)
130-139 or 80-89	293 / 16,987	17.2 (15.3, 19.2)	293 / 16,987	17.2 (15.3, 19.2)
≥140 or ≥90	224 / 8,469	26.4 (23.0, 29.9)	224 / 8,469	26.4 (23.0, 29.9)
Recommendation for antihypertensive medication intensification by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	2 / 523	3.8 (0.0, 9.1)	3 / 538	5.6 (0.0, 11.9)
Recommended	373 / 19,786	18.9 (16.9, 20.8)	526 / 20,854	25.2 (23.1, 27.4)
Blacks				
SBP/DBP, mm Hg*				
<130 and <80	339 / 17,295	19.6 (17.5, 21.7)	531 / 18,215	29.2 (26.7, 31.6)
130-139 or 80-89	376 / 18,446	20.4 (18.3, 22.4)	555 / 19,576	28.4 (26.0, 30.7)
≥140 or ≥90	564 / 16,977	33.2 (30.5, 36.0)	794 / 18,611	42.7 (39.7, 45.6)
Recommendation for antihypertensive medication intensification by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	1 / 284	3.5 (0.0, 10.4)	1 / 291	3.4 (0.0, 10.2)
Recommended	375 / 18,162	20.6 (18.6, 22.7)	554 / 19,285	28.7 (26.3, 31.1)

	Whites			
SBP/DBP, mm Hg*				
<130 and <80	534 / 22,525	23.7 (21.7, 25.7)	758 / 23,953	31.6 (29.4, 33.9)
130-139 or 80-89	432 / 18,120	23.8 (21.6, 26.1)	596 / 19,408	30.7 (28.2, 33.2)
≥140 or ≥90	450 / 13,224	34.0 (30.9, 37.2)	613 / 14,497	42.3 (38.9, 45.6)
Recommendation for antihypertensive medication intensification by the 2017 ACC/AHA blood pressure guideline[†]				
Not recommended	1 / 239	4.2 (0.0, 12.4)	2 / 247	8.1 (0.0, 19.3)
Recommended	431 / 17,882	24.1 (21.8, 26.4)	594 / 19,161	31.0 (28.5, 33.5)

ACC: American College of Cardiology; AHA: American Heart Association; CVD: cardiovascular disease; HDL: high-density lipoprotein; REGARDS: REasons for Geographic and Racial Differences in Stroke; SD: standard deviation.
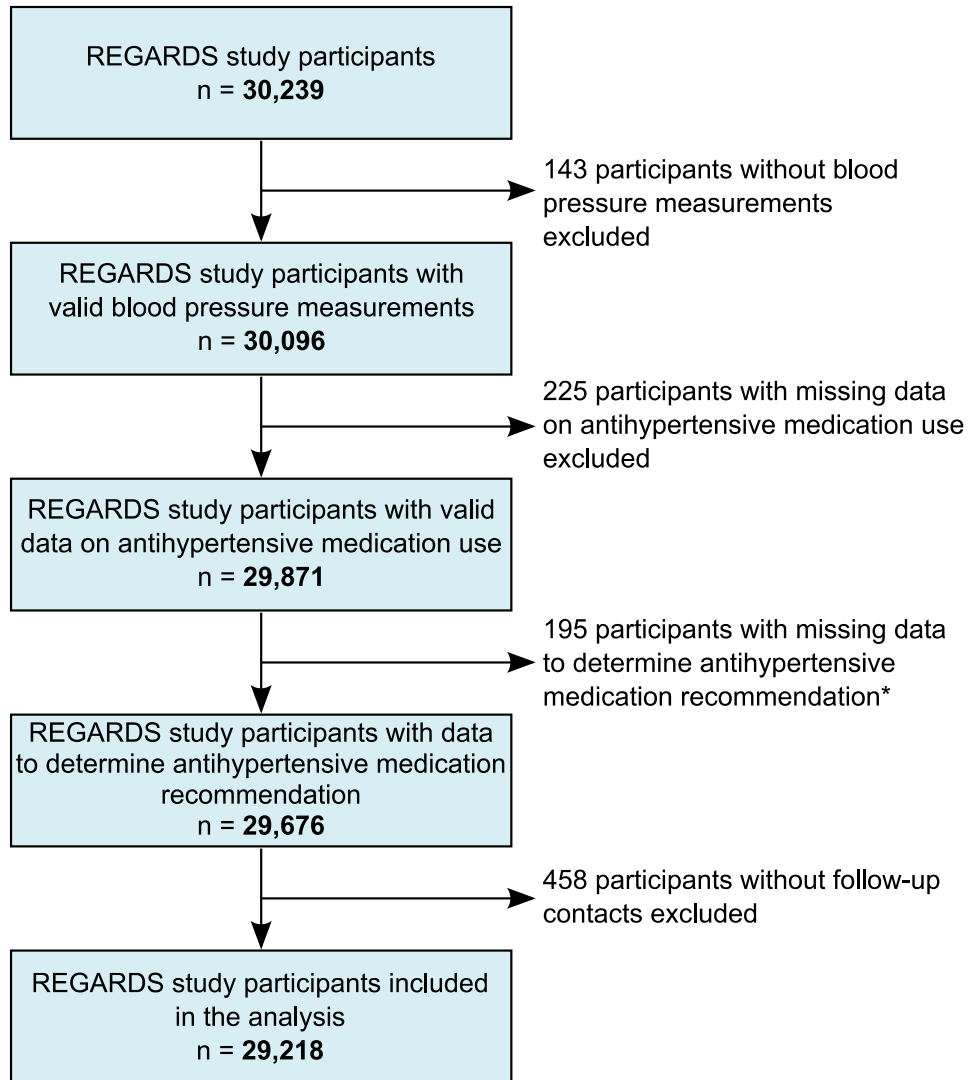
* Blood pressure categories are mutually exclusive. Participants whose SBP and DBP correspond to two separate categories were assigned to the higher blood pressure group.

[†] Analyses of the recommendation for antihypertensive medication intensification were restricted to participants with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg. Recommendations for antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline include SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg with diabetes, chronic kidney disease, a history of CVD or a 10-year predicted CVD risk ≥10%, age <65 years, or age ≥65 years with SBP ≥130 mm Hg. Participants ≥65 years of age with SBP <130 mm Hg, DBP between 80 and 89 mm Hg and a 10-year predicted CVD risk <10% who do not have diabetes, chronic kidney disease or a history of CVD are not recommended antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline.

[‡] All men with SBP between 130 and 139 mm Hg or DBP between 80 or 89 mm Hg were recommended antihypertensive medication initiation according to the 2017 ACC/AHA blood pressure guideline.

The median follow-up for CVD events was 7.8 years (maximum 11.8 years). The median follow-up for all-cause mortality was 8.2 years (maximum 11.9 years).

Online Figure 1. Flow-chart of REGARDS study participants included in the current analysis.


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┌─────────────────────────────────┐
│   REGARDS study participants     │
│         n = 30,239               │
└─────────────────────────────────┘
                │
                │────────────────────►  143 participants without blood
                │                        pressure measurements
                ▼                        excluded
┌─────────────────────────────────┐
│  REGARDS study participants with │
│  valid blood pressure measurements│
│         n = 30,096               │
└─────────────────────────────────┘
                │
                │────────────────────►  225 participants with missing data
                │                        on antihypertensive medication use
                ▼                        excluded
┌─────────────────────────────────┐
│ REGARDS study participants with valid│
│ data on antihypertensive medication use│
│         n = 29,871               │
└─────────────────────────────────┘
                │
                │────────────────────►  195 participants with missing data
                │                        to determine antihypertensive
                ▼                        medication recommendation*
┌─────────────────────────────────┐
│ REGARDS study participants with data│
│ to determine antihypertensive medication│
│         recommendation           │
│         n = 29,676               │
└─────────────────────────────────┘
                │
                │────────────────────►  458 participants without follow-up
                │                        contacts excluded
                ▼
┌─────────────────────────────────┐
│ REGARDS study participants included│
│        in the analysis           │
│         n = 29,218               │
└─────────────────────────────────┘
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ACC: American College of Cardiology; AHA: American Heart Association; CVD: cardiovascular disease; DBP: diastolic blood pressure; REGARDS: REasons for Geographic and Racial Differences in Stroke; SBP: systolic blood pressure.

* Some participants with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg not taking antihypertensive medication who were not recommended pharmacological treatment initiation based on the information available had missing data on diabetes, chronic kidney disease or variables used to calculate the 10-year predicted CVD risk, including cigarette smoking, and total and high-density lipoprotein cholesterol (n=108). These participants were excluded from the analysis as it was not possible to confirm that they were not recommended antihypertensive medication initiation by the 2017 ACC/AHA blood pressure guideline (see **Online Table 2**, top panel). For consistency, participants with SBP between 130 and 139 mm Hg or DBP between 80 and 89 mm Hg taking antihypertensive medication who were not recommended pharmacological treatment intensification and had missing data on these variables were also excluded (n=87).

Online Figure 2. Distribution of REGARDS study participants taking antihypertensive medication by blood pressure categories and recommendation for pharmacological antihypertensive treatment intensification.

Recommendation for antihypertensive medication intensification by the 2017 ACC/AHA blood pressure guideline†

■ Not recommended

■ Recommended
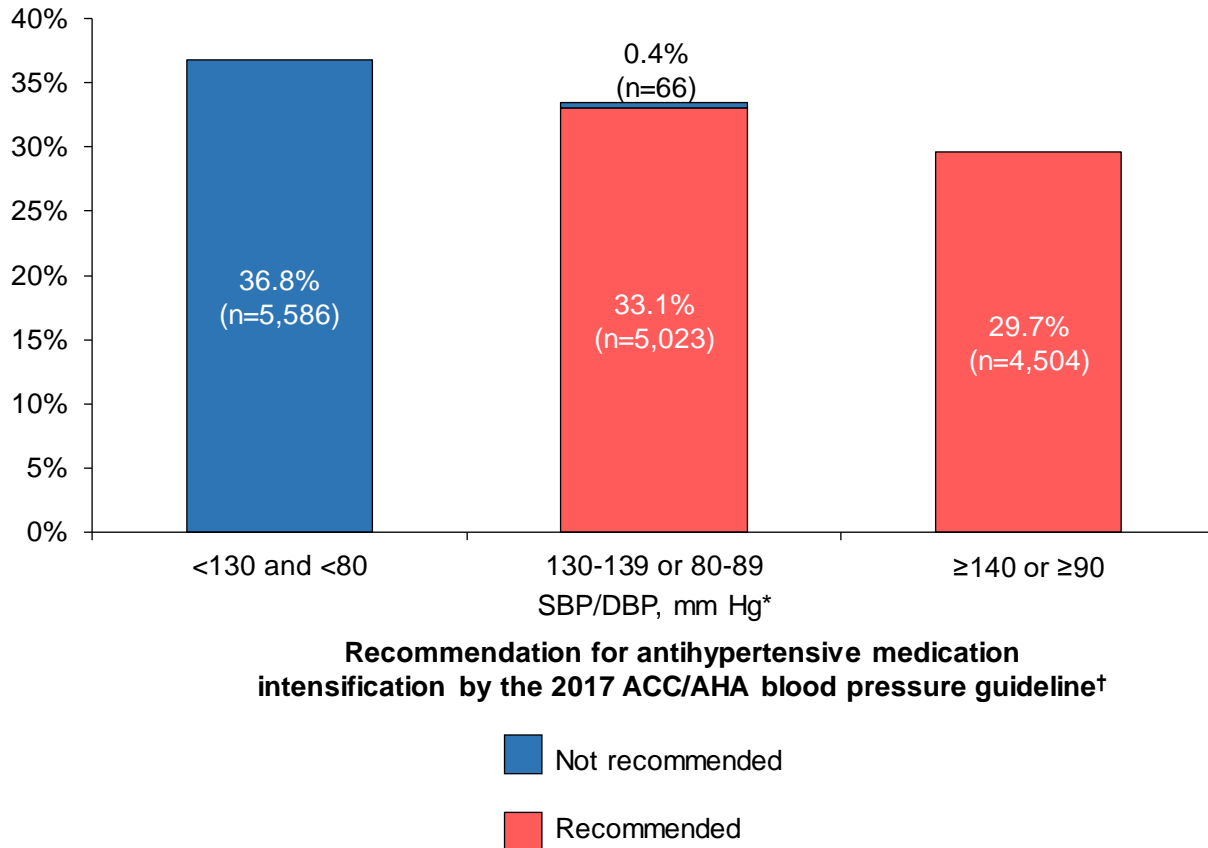
ACC: American College of Cardiology; AHA: American Heart Association; DBP: diastolic blood pressure; REGARDS: REasons for Geographic and Racial Differences in Stroke; SBP: systolic blood pressure.

* Blood pressure categories are mutually exclusive. Participants whose SBP and DBP correspond to two separate categories were assigned to the higher blood pressure group.

† Recommendations for antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline include SBP ≥130 mm Hg or DBP ≥80 mm Hg with diabetes, chronic kidney disease, a history of CVD or a 10-year predicted CVD risk ≥10%, age <65 years, or age ≥65 years with SBP ≥130 mm Hg. Participants ≥65 years of age with SBP <130 mm Hg, DBP between 80 and 89 mm Hg and a 10-year predicted CVD risk <10% who do not have diabetes, chronic kidney disease or a history of CVD are not recommended antihypertensive medication intensification according to the 2017 ACC/AHA blood pressure guideline.

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