

THE PRESENT AND FUTURE

STATE-OF-THE-ART REVIEW

2014 Hypertension Recommendations From the Eighth Joint National Committee Panel Members Raise Concerns for Elderly Black and Female Populations



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ABSTRACT

A report from panel members appointed to the Eighth Joint National Committee titled "2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults" has garnered much attention due to its major change in recommendations for hypertension treatment for patients ≥ 60 years of age and for their treatment goal. In response, certain groups have opposed the decision to initiate pharmacologic treatment to lower blood pressure (BP) at systolic BP ≥ 150 mm Hg and treat to a goal systolic BP of < 150 mm Hg in the general population age ≥ 60 years. This paper contains 3 sections—an introduction followed by the opinions of 2 writing groups—outlining objections to or support of maintaining this proposed strategy in certain at-risk populations, namely African Americans, women, and the elderly. Several authors argue for maintaining current targets, as opposed to adopting the new recommendations, to allow for optimal treatment for older women and African Americans, helping to close sex and race/ethnicity gaps in cardiovascular disease morbidity and mortality. (J Am Coll Cardiol 2014;64:394–402) © 2014 by the American College of Cardiology Foundation

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EVALUATING THE CRITICISMS OF THE HYPERTENSION RECOMMENDATIONS FOR SPECIAL POPULATIONS FROM THE JNC-8 PANEL

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The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC) published its last, and apparently final, recommendations for management of hypertension (JNC-7), which were supported and endorsed by the National Heart, Lung, and Blood Institute (NHLBI), in 2003 (1). The next version (JNC-8) was being developed when the NHLBI announced in 2013 that it would no longer write such guidelines, but would instead focus on research and provide support for professional societies to write their own advisories (2). Not long after, the American Heart Association (AHA), the American College of Cardiology (ACC), and the Centers for Disease Control and Prevention jointly provided a brief focused advisory and concise algorithm for management of hypertension (3), reiterating that the goal for treatment of adult hypertension was a systolic blood pressure (SBP) <140 mm Hg and diastolic blood pressure (DBP) <90 mm Hg (Central Illustration). This recommendation also had been reflected in the European guidelines (4) as well as by the International Hypertension Society and the American Society of Hypertension (5) (Central Illustration). Meanwhile, a portion of those medical scientists involved in the extensive review process that would have become the JNC-8 chose to publish their conclusions, based on strict adherence to principles of evidence-based medicine, consensus, and expert opinion (6). The Joint National Committee-8 Panel (JNC-8P) recommended a major change by defining, for those ≥ 60 years of age, an SBP ≥ 150 mm Hg threshold for initiating antihypertensive drug treatment and a treatment goal SBP of <150 mm Hg. Although a simple majority of the panel supported the new recommendation be adopted, a minority portion preferred to retain the older threshold and treatment goal of 140 mm Hg in the general hypertensive population without diabetes or chronic kidney disease (CKD), except for those older than age 80 years who are frail (7).

In the second section of this paper, authors from the Association of Black Cardiologists (ABC) and clinical specialists in the treatment of hypertension in Blacks strongly opine that an SBP treatment goal of 150 mm Hg for those ≥ 60 years of age is incorrect, potentially resulting in a major threat to the health of this older group, especially for Blacks with

hypertension. In the third section of this paper, a Working Group on Women's Cardiovascular Health suggests that the new hypertension recommendations adversely affect all patients age 60 years and older, but it disproportionately affects women since there are so many more women in this age demographic with high blood pressure (BP). Can these positions be reconciled, or will the controversy affect the future health of those at risk because of hypertension?

I may add perspective to summarize, briefly, the sequence of U.S. guidelines for hypertension management represented in the 7 reports published by the NHLBI since 1977 (8). This summary will only focus on criteria for diagnosis and control of hypertension as displayed in Table 1. The first 3 JNC advisories relied on DBP >90 mm Hg as the definition of treatable hypertension; hence, control meant DBP <90 mm Hg (8-10). The Fourth JNC recommended using a lower criteria, 140 mm Hg SBP or a goal of $<140/90$ mm Hg, "if possible" in 1988, without clear-cut evidence (11). After publication of the SHEP (Systolic Hypertension in the Elderly Program) Cooperative Research Group in 1991 (12), reporting a highly significant benefit for drug treatment of systolic hypertension in the elderly (>60 years of age), the Fifth JNC advisory in 1993 changed the recommendation for the threshold pressure for drug treatment to 140 mm Hg SBP and added that $<130/85$ mm Hg might be considered for an even lower threshold (13). The JNC-6 and JNC-7 reports retained the same criteria, the SBP goal of <140 mm Hg for the general hypertensive cohort and $<130/85$ mm Hg for those with hypertension and either diabetes or CKD (1,14). In general, these recommendations have been maintained in the European and international guidelines to the present. However, the failure of the ACCORD (Action to Control Cardiovascular Risk in Diabetes) trial (15), which compared very low SBP goals (<120 mm Hg) with the standard goal of <140 mm Hg, to demonstrate superiority of the lower goal has led the most recent European (4), AHA/ACC (3), and American Diabetes Association (16) guidelines to retreat from the recommendation of <140 mm Hg.

The JNC-8P process for developing its recommendations was based on rigid and carefully-applied criteria developed by the NHLBI for classifying the strength or weakness of available evidence. The 3 large randomized, placebo-controlled trials addressing hypertension in the elderly are summarized in Table 2. Two of these trials recruited participants older than 60 years of age. The HYVET (Hypertension in the Very Elderly Trial) randomized 3,845 patients older than 80 years of age (17) with the average SBP

SOURCE	Recommended Threshold for Hypertension Diagnosis		Recommended Blood Pressure Treatment Goals			Recommended Management for Patients with Diabetes	
	patients <60 years old	patients ≥60 years old	with diabetes	with chronic renal failure	elderly patients >80 yrs old	without chronic renal disease	with chronic renal disease or proteinuria
ASH/ISH 2014 ⁵	140 systolic/90 diastolic mm Hg	140/90	140/90	140/90 <150/90 is appropriate for >80 years old	<150/90	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker
ADA 2013 ¹⁶	140/80	140/80	140/80	140/80	Not stated	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker
AHA/ACC Go et al 2013 ³	140/90	140/90	140/90	140/90	Not stated	Thiazide+	Not stated
ESC/ESH 2013 ⁴	140/90	140/90	140/90	140/90	<150/90	Any class	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker+
JNC-8P 2013 ⁶	140/90	150/90	140/90 for <60 years old <150/90 for older patients	140/90 for <60 years old <150/90 for older patients	<150/90	Any class	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker+
AHA/ACC Elderly 2011 ³⁶	140/90	140/90	<130/80	<130/80	<140-145 if tolerated, avoid low diastolic pressures	Not stated	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker+
JNC-7 2003 ¹	140/90	140/90	<130/80	<130/80	<140/90	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker+	Angiotensin converting enzyme inhibitor or Angiotensin receptor blocker+

CENTRAL ILLUSTRATION Published Guidelines for the Diagnosis and Management of Hypertension

Overview of the U.S. and international guidelines related the assessment and treatment for patients with hypertension (1,3–6,16,36).

at baseline and during treatment for both placebo and intervention shown (Table 2); none of the on-treatment targets for active treatment were <140 mm Hg. The Cardio-Sis (CARDIOvascolari del Controllo della Pressione Arteriosa SIStolica) trial of 1,111 participants compared a standard SBP goal of <140 mm Hg with a “tight” control goal of <130 mm Hg. The “tightly controlled group” had a significantly lower incidence of new left ventricular hypertrophy, atrial fibrillation, and need for coronary revascularization (18). JNC-8P concluded that the evidence most strongly supported a goal of 150 mm Hg for patients ≥60 years of age (Level A). The consensus accepted a goal of 140 mm Hg, based on expert opinion (Level E), due to a lack of compelling evidence for stronger level of support.

The position taken by the ABC that a goal of 150 mm Hg SBP for those older than 60 years of age is too high—and possibly detrimental—rests on 4

concerns. First, at least 1 trial, Cardio-Sis, compared a standard treatment goal with a “tight” control (i.e., goal of 130 mm Hg), and found benefit for the latter. The trial demonstrated significant reductions in incidence of LVH by electrocardiogram, need for cardiovascular surgery, and incidence of new atrial fibrillation (18). Second, 2 Japanese trials comparing standard and lower goals, in a population not comparable with high-risk African Americans, failed to find benefit for the lower goals, but also found no harm or excessive adverse effects (19,20). These were small trials with wide confidence limits around the event rates. Third, the ABC cited or referred to the abundance of *epidemiologic surveys* documenting the progressive and somewhat continuous relationship between SBP and future risk. Fourth, they expressed grave concern that the JNC-8P’s recommendation would adversely impact the treatment of those already at the lower goal and lead to complacency

TABLE 1 Joint National Committee Reports					
	Year	Threshold	Treatment Goal	Selected Trial Evidence (Ref. #)	
First (8)	1977	Diastolic 90 mm Hg	<90 mm Hg diastolic	VA (51)	
Second (9)	1980	Diastolic 90 mm Hg	<90 mm Hg diastolic	HDFP (52)	
Third (10)	1984	Diastolic 90 mm Hg	<90 mm Hg diastolic	MRC (53), Australian (54)	
Fourth (11)	1988	Diastolic >90 mm Hg Diastolic <90 mm Hg and systolic >160 mm Hg (isolated systolic hypertension)	<140/90 mm Hg, if possible	As above	
Fifth (13)	1993	>140/90 mm Hg and isolated systolic >140 mm Hg for isolated systolic	<140/90 mm Hg, consider <130/85	SHEP 1991 (12)	
Sixth (14)	1997	>140/90 mm Hg and isolated systolic >140 mm Hg for isolated systolic	<140/90 mm Hg, consider <130/85 mm Hg	Syst-Eur (55)	
Seventh (1)	2003	>140/90 mm Hg and isolated systolic >140 mm Hg for isolated systolic	<140 or <90 mm Hg for DM or CRD <130/80 mm Hg	RENAAL (56), IDNT (57)	

CRD = chronic renal disease; DM = diabetes mellitus; HDFP = Hypertension Detection and Follow-up Program; IDNT = Irbesartan Diabetic Nephropathy Trial; MRC = Medical Research Council; RENAAL = Reduction of Endpoints in NIDDM with the Angiotensin II Antagonist Losartan; SHEP = Systolic Hypertension in the Elderly Program; Syst-Eur = Systolic Hypertension in Europe; VA = Veterans Administration.

among physicians, reducing the overall effort to detect, treat, and control hypertension, particularly in the African-American community, who is at higher risk for cardiovascular disease (CVD). Thus, the ABC position is supported by certain trial evidence, Cardio-Sis, a lack of harm, epidemiologic data, and expert opinion (older guidelines and other contemporary guidelines).

What is missing from the evidence? The answer is a large, randomized controlled trial of those older than 60 years of age without diabetes or CKD comparing a higher and lower goal. Two such trials are underway: SPRINT (Systolic Blood Pressure Intervention Trial) (NCT01206062) and ESH-CHL-SHOT (Optimal Blood Pressure and Cholesterol Targets for Preventing Recurrent Stroke in Hypertensives) (NCT01563731). The SPRINT trial planned to randomize 9,250 high-risk subjects ≥ 50 years of age to target SBP goals of <120 and <140 mm Hg. In the ESH-CHL-SHOT trial, 7,500 subjects ≥ 65 years of age with prior stroke or transient ischemic attack will be randomized to 3 different target SBP goals: <145 to 135 mm Hg; <135 to 125 mm Hg; and <125 mm Hg. However, although only 1 of these trials will have all subjects >60 years of age, both trials compare goals near the standard (~ 140 mm Hg SBP) with lower goals. If they clearly show benefit from a lower goal, then the goal of 150 mm Hg may be less defensible. But if, like in the ACCORD trial, they fail to demonstrate any benefit of a lower goal, the issue will not be resolved.

In the meantime, clinicians should be fully aware that all guidelines have an “escape clause,” recognizing the need for good judgment in deciding whether to pursue a lower goal in healthy patients without adverse effects or accept that an office SBP of 140 to 150 mm Hg is acceptable for some. However, the pursuit of very low goals for those with

hypertension and diabetes or coronary heart disease (CHD) is no longer supported by the available evidence. The J-curve for cardiovascular events has been suggested in retrospective analyses evaluating on-treatment BP and outcomes in clinical trials (21). Epidemiologic surveys support a J-curve for BP in diabetic groups (22). There is concern about overly aggressive treatment of hypertension in older groups (23). Overemphasis on a lower treatment goal for hypertension without taking the potential J-curve aspect into consideration might expose vulnerable groups (elderly women with hypertension, persons with diabetes, those with coronary disease, and frail older patients) to harm, so an *optimal range* for systolic pressure rather than a single threshold for treatment becomes more important (24).

Members of JNC-8P, the ABC, and a Working Group on Women’s Cardiovascular Health, as seen in the third section, are equally and intensely concerned about optimal prevention of cardiovascular disease through treating hypertension. Their debates will and should continue as we who treat hypertension in our daily practices seek to combine the best evidence and their recommendations with our judgment to improve the nation’s health.

TABLE 2 Features of Placebo-Controlled Trials for Older Patients Demonstrating Benefit of Treatment

Trial, Year (Ref. #)	Number in Trial	Age Criteria, yrs	Average Age, yrs	Placebo/Active Baseline SBP, mm Hg	Placebo/Active Treatment SBP, mm Hg
SHEP, 1991 (12)	4,736	>60	72	170/170	155/143
Syst-Eur, 1997 (55)	4,695	>60	70	174/174	161/151
HYVET, 2008 (17)	3,845	>80	84	173/173	158/143

SBP = systolic blood pressure; other abbreviations as in Table 1.

ASSOCIATION OF BLACK CARDIOLOGISTS POSITION: POTENTIAL UNINTENDED ADVERSE CONSEQUENCES

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In July 2013, the NHLBI tasked the ACC and AHA with the long-awaited JNC-8 document, along with guidelines on lipid management, lifestyle, risk assessment, and obesity, for vetting and shepherding through the final stages of the guideline process. The JNC-8 panelists were not in agreement with this process or the reviews of the document, and chose to publish separately, no longer using the title JNC-8. Using the “members-appointed” phrase has led to confusion about this document, and it has been called “JNC-8” by the media with regularity since its publication. Neither the NHLBI nor any other federal agency sanctioned this 2014 guideline document.

It is the opinion of the ABC that these 2014 recommendations is flawed in design, as it was constrained by the use of only highly-selected randomized controlled trials, which drastically understates the literature supporting a more aggressive approach to controlling hypertension. Although a laudable goal for methodology, this constraint led to the exclusion of large portions of critical evidence from other trials and meta-analyses. For example, in the Cardio-Sis trial with patients without diabetes, the average age was 67 years with a targeted SBP of ≤ 130 mm Hg as compared with < 140 mm Hg. This study was criticized for its open-label design; however, it provided evidence that a lower SBP target decreased both the primary endpoint of LVH and the pre-specified endpoint of composite CVD (18).

The ABC stance is concordant with the minority view of 5 appointed members of the 2014 recommendations committee, expressed by Wright et al. (7). A recently published paper analyzing data from the National Health and Nutrition Examination Survey showed a dramatic drop in treatment-eligible hypertension in adults age ≥ 60 years, decreasing from 68.9% (95% confidence interval: 19.1% to 21.4%) using JNC-7 to 61.2% (95% confidence interval: 59.3% to 63.0%) if the 2014 recommendations are implemented (25). The ABC Group believes this decision may endanger the well-being of many of the more than 36 million Americans who are ≥ 60 years of age and have hypertension, with a disproportionate negative impact on African-

American patients and those with CKD and cerebrovascular disease. The disparate burden of hypertension on long-term outcomes in African-American patients is well documented with premature, more prevalent, and deadly CVD, especially CHD, stroke, CKD, and heart failure (HF). In addition, it is well known that hypertensive African Americans have more concomitant conditions that further increase their risk for CVD, including, but not limited to, obesity (especially in black women), type 2 diabetes, sedentary lifestyle, low socioeconomic status, and higher levels of psychosocial stress in the urban setting.

Furthermore, despite significant improvements in CHD and CVD risk from 1999 to 2010 for whites, the average BP and total cholesterol levels were unchanged and prevalence of diabetes increased in black patients (26), leading to an increase in mean predicted risk for CHD and CVD among African Americans. Other compelling data support the rationale for maintaining the more stringent control of hypertension in blacks. Hypertension is the major driver of HF in African-Americans and has been associated with greater morbidity and mortality. Recent data have shown that HF hospitalizations have been reduced for other groups, but not for African Americans, particularly black males (27). Also, the significant reduction in cardiometabolic risk factors over the last 10 years in whites and Mexican Americans has not been replicated in African Americans (28), again supporting the necessity to appropriately control BP in this high-risk group. African-American life expectancy is 5.4 years shorter than Caucasians, and hypertension is the single largest contributor to this disparity (29).

We consider it unwise to categorically and somewhat arbitrarily increase goal BP in a population of patients who are already at high risk and many of whom have years of productive lives ahead. At least 2 meta-analyses (30,31) support treating BP to a goal of < 140 mm Hg. Thus, stronger evidence of harm than the 2014 recommendations demonstrate would be needed to change the goal from this proven beneficial level. Review of the literature, including the SHEP, showed significant benefit in treating patients ≥ 60 years of age and reducing SBP to an average of 143 mm Hg in older persons without significant harm (12). Of note, the convincing 36% lower stroke rate ($p = 0.0003$) and 27% lower clinical nonfatal myocardial infarction plus coronary death rate in the SHEP active treatment group should not be forgotten. In addition, the HYVET trial demonstrated the benefit of treating to a similar SBP target in those ≥ 80 years of age (17).

The findings of SHEP and recent meta-analyses are consistent with epidemiologic data in elderly patients, linking elevated BP in a linear, direct, and continuous fashion to increased CVD. Although the 2014 recommendations cite a lack of benefit in 2 Japanese hypertension trials (19,20), both were underpowered based on the low incidences of cardiovascular events. These findings in Japanese subjects cannot be extrapolated to African Americans, who have a proven high risk for cardiovascular events.

The ABC recognizes that it is not always wise to treat all patients who are ≥ 60 years of age to the conventional 140 mm Hg goal with antihypertensive therapy, including individuals with frailty or adverse reactions to therapy. It is prudent to utilize a careful history and physical examination assessment, including, but not limited to, identifying those at highest risk for orthostatic hypotension. On the other hand, there is an increasing population of relatively healthy individuals age ≥ 60 years who would potentially be adversely affected by the 2014 recommendations. We also recognize that the 2014 recommendations did not mandate a change in therapy if SBP fails to reach ≤ 140 mm Hg in the absence of adverse events or side effects.

In summary, the ABC maintains that the 2014 recommendations are generally on target. However, raising the SBP goal to 150 mm Hg in persons who are ≥ 60 years of age, especially in African Americans who are prone to end organ damage from hypertension, may have a substantial negative impact on gains that have been made in the last several decades in the treatment of CVD. The black-white life expectancy gap remains wide for both men and women and is driven largely by the adverse effects of poorly-controlled hypertension and associated CVD. The unacceptable, unintended, adverse consequences of raising SBP goals for older persons may be to worsen these disparities. These 2014 recommendations are discordant with multiple other major guidelines and reports addressing the hypertension treatment, including the 2010 International Society of Hypertension in Blacks consensus statement, which had an even lower threshold for instituting therapy at 135/85 mm Hg (3,5,32-36). Several of these organizations will review the evidence once again, and the future guidelines developed will encompass the published literature. The ABC maintains that clinicians who treat African Americans and other high-risk patient populations should await further recommendations from major professional organizations before departing from previously accepted standards of care. *Acknowledgments for this section:* The authors thank Drs. Elijah Saunders, Richard

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WORKING GROUP ON WOMEN'S CARDIOVASCULAR HEALTH: HYPERTENSION TREATMENT FOR OLDER ADULTS: RAISING THE BAR ADVERSELY AFFECTS WOMEN

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The authors of this Working Group on Women's Cardiovascular Health editorial utilize the term "2014 Hypertension Recommendations" versus JNC 8 Guideline. This nomenclature accurately reflects the JAMA publication from the JNC-8P and avoids the perception that the federal government and any of the 39 professional organizations that reviewed and endorsed JNC-7 were responsible for conclusions. It is also important to emphasize that the JNC-8P views do not represent those of the NHLBI, the National Institute of Diabetes and Digestive and Kidney Diseases, the National Institutes of Health, or the federal government.

CVD in women has been understudied, under-recognized, and undertreated, with consequent suboptimal outcomes in this population. As most Americans ≥ 60 years of age with hypertension are women, women will be differentially affected by the recommendation to relax the SBP threshold for initiating treatment (to 150 mm Hg) and to raise the treatment target (< 150 mm Hg) for people ≥ 60 years of age (6). These 2014 recommendations offer no recognition that the hypertensive population is primarily female, that older women generally have poorly-controlled BP, and that approximately 40% of those with poor BP control are African-American women, who have the highest risks for stroke, HF, and CKD.

CVD is the leading cause of death among women in the United States, and hypertension is the major modifiable contributor (37) to CHD, HF, stroke, atrial fibrillation, diabetes, and CKD. Nearly 1 in 3 adult women has hypertension, and 1 in 5 of their deaths is hypertension-related (37). Hypertension is a much stronger risk factor for development of HF among women versus men (38). Furthermore, the prevalence of hypertension (including undiagnosed and uncontrolled hypertension) is highest among nonwhite women (39). In part due to more prevalent and severe hypertension, about 2 of every 5 African-American women die from heart disease or stroke before 75 years of age (40).

Data from the Women's Health Initiative revealed that older women (mean age 63 years) with

pre-hypertension had a 93% increased stroke risk versus normotensive women. The 2014 Guidelines for the Prevention of Stroke in Women interpret these compelling data as support for early and sustained hypertension treatment in older women (41). Although there may be a lack of evidence from randomized controlled trials documenting optimal SBP thresholds in older people in general, and in women specifically, the absence of such data is not the same as a demonstrated absence of benefit. We suggest that lowering SBP thresholds for intervention and goal attainment will lead to increases in community SBP and an increase in BP-related adverse outcomes differently influencing women.

The prevalence of hypertension in the United States will continue to increase with population growth, population aging, and persistent adverse behavioral risk factors, including high sodium, low potassium dietary patterns, physical inactivity, and increasing obesity. The rise in extreme obesity (body mass index >40 kg/m 2) is significantly more prevalent among women than men and will further drive a sex-specific rise in hypertension rates. Furthermore, although hypertensive women are more likely to be treated than men, they are less likely to achieve BP control (42).

The simple observation of elevated BP in older middle-aged women (and men) is not the answer, as BP elevation is progressive, and the risk of developing hypertension with aging is high. In the community-based prospective cohort Framingham Heart Study, among women age 55 to 65 years who were free of hypertension at baseline, 90% developed hypertension over follow-up (43). Moreover, the residual lifetime risk for stage 2 high BP or higher ($\geq160/100$ mm Hg, regardless of treatment) was approximately 40%. The recent decline in this lifetime risk has been a major public health achievement (44), reflecting higher intervention and achievement of BP goals. It would indeed be very unfortunate if these successes are slowed or reversed, and the potential disadvantage to women should be acknowledged.

Treating to SBP <140 mm Hg as the target goal will potentially provide greater public health protection against CVD among older women with little evidence of serious harm. In contradistinction to other CVD trials, women are generally well-represented in hypertension trials, and sex-specific results have been published (12,45–47). For example, the SHEP trial included 63% women, with a mean age of 72 years (12). The incidence of stroke at 4 to 5 years was significantly lower in treated women (and men) (5.5% vs. 8.2% with placebo). Overall, with a mean baseline BP of 170/77 mm Hg, follow-up BP was 143/68 mm Hg with treatment and 155/72 mm Hg with placebo.

These results more closely reflect the conventional SBP <140 mm Hg treatment goal. In a meta-analysis of 20,802 women, treatment was significantly beneficial for stroke and for major CVD events: in absolute terms, the benefit in women was primarily driven by stroke reduction (45). The Blood Pressure Lowering Treatment Trialists' Collaboration included 87,349 women, mean age 63 years, and concluded that all of the various antihypertensive regimens were similar in protective effects against major CVD events in women (47). The ACCOMPLISH (Avoiding Cardiovascular Events through Combination Therapy in Patients Living with Systolic Hypertension) trial demonstrated the efficacy of initial angiotensin-converting enzyme inhibition-calcium antagonist combination therapy in 11,506 hypertensive patients (mean age 68.4 years; 39.5% were women; mean BP was 145/80 mm Hg) at high risk for cardiovascular events. Patients age ≥ 65 and ≥ 70 years had the same relative benefit from benazepril-amlodipine as did the overall study population, although, perhaps related to sample size, the benefit in women was only a trend ($p = 0.06$) (46).

Although definitive, large, randomized controlled trials for older patients with SBP 140 to 159 mm Hg have not been performed, we recommend that older women be treated to <140 mm Hg based on observational studies that show a continuous and graded relationship between cardiovascular risk and increasing SBP (48). Although we support treating older persons to the conventional SBP goal of <140 mm Hg, as tolerated, clinical judgment still remains essential in hypertension care. An SBP goal <150 mm Hg for debilitated or frail persons ≥ 80 years of age is a reasonable alternate approach to a broad loosening of the SBP goal for those ≥ 60 years of age (7).

The JNC-8P recommends maintenance of the current SBP goal of <140 mm Hg for persons <60 years of age, despite an absence of randomized controlled trials. Curiously, in this case, the panel proposes that there was no compelling reason to change current recommendations. Furthermore, in the recommendations, SBP threshold and goal recommendations in older adults are discordant with other major evidence-based guidelines and opinion reports (5,33,34,36,49), which endorse that maintaining a goal <140 mm Hg will potentially give greater public health protection in CVD in older women <80 years, with little evidence of serious harm. Our recommended target of <140 mm Hg (and <150 mm Hg for those ≥ 80 years of age) is consistent with guidelines from Europe (33), Canada (34), the American College of Cardiology Foundation, the American Heart Association (36), the United Kingdom (49), and the American Society of Hypertension and

International Society of Hypertension (5). In consideration of the marked increase in hypertension-related risk for African Americans, including women, the International Society of Hypertension in Blacks recommended more intensive goal BP attainment in African Americans (50).

In summary, we strongly disagree with the new 2014 recommendations to raise the threshold for initiating drug treatment and SBP goal for older persons, specifically because of the implications for women who comprise the majority of this elderly hypertensive population. This JNC-8P places high-risk older women, especially African-American women, at unnecessary excess risk, exacerbating existing sex and racial/ethnic CVD disparities. Retaining current targets will allow optimal treatment for older and African-American women and may help to close sex and race/ethnicity gaps in CVD morbidity and mortality.

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