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EDITOR'S PAGE

Navigating the 2024 ESC Hypertension Guidelines

What Is New, Context, and Future Directions

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WHAT IS NEW?

On August 30, 2024, the European Society of Cardiology (ESC) introduced its latest update to the hypertension guidelines, marking significant shifts in the management of high blood pressure (BP).[1] Prior European guidelines recommended a target BP of <140/90 mm Hg, with more intensive treatment reserved for high-risk populations.[2] However, the 2024 guidelines recommend treating patients with increased cardiovascular risk to a target systolic BP (SBP) of <130 mm Hg. A higher target is suggested for individuals unable to tolerate lower BP levels. This shift reflects a paradigm change toward an opt-out strategy for intensive treatment, as opposed to the previous opt-in approach, recognizing that lower BP targets can significantly decrease the risk of cardiovascular disease. Additionally, the guidelines introduce a new category of elevated BP, defined as an in-office SBP of 120 to 139 mm Hg or diastolic BP of 70 to 89 mm Hg. This categorization aligns with U.S. hypertension guidelines[3] and is supported by robust clinical trial data, demonstrating the benefits of targeting SBP levels of <120 mm Hg.[4-6]

The recommendation for home BP monitoring is also emphasized, both for managing hypertension and establishing a diagnosis. This recommendation aligns with the recognition that BP measurements can vary, and multiple readings are necessary to confirm a diagnosis.[7] Home BP monitoring can also promote self-care and empower patients to make choices that support better BP control (eg, lowering salt, adhering to medication). These updates reflect a growing global consensus to diagnose hypertension earlier in the disease course and to recommend more frequent measurement and treatment at lower levels than previously standard practice.

The 2024 ESC guidelines continue to take a risk-based approach to hypertension treatment. For adults with low-to-moderate cardiovascular risk (a 10-year risk of <10%), the guidelines recommend initiating lifestyle modifications for elevated BP, reserving medication only for those whose BP remains above 140/90 mm Hg. In contrast, for high-risk individuals, treatment is recommended once BP exceeds 130/80 mm Hg. This stratification is based largely on clinical trials involving patients with increased cardiovascular risk. For example, SPRINT (Systolic Blood Pressure Intervention Trial),[4] which included adults >50 years with elevated cardiovascular risk but without diabetes, found that targeting an SBP of <120 mm Hg significantly reduced cardiovascular events compared with a target of <140 mm Hg. Similarly, STEP (Strategy of Blood Pressure Intervention in the Elderly Hypertensive Patients), which focused on adults aged 60 to 80 years, demonstrated that intensive BP control to a target of 110 to 130 mm Hg was more effective in

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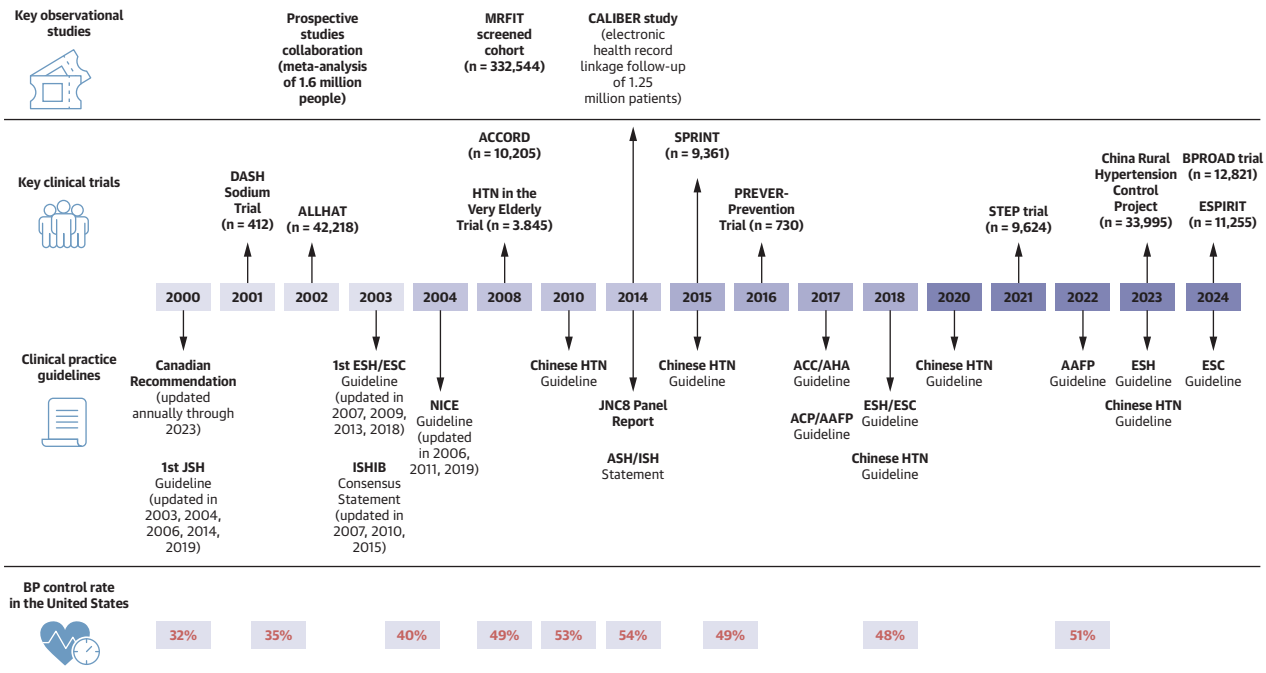
FIGURE 1 Timeline for Selected Major Clinical Studies Related to Blood Pressure, Clinical Practice Guidelines, and Blood Pressure Control Rate (<140/90 mm Hg) in the United States



Blood pressure control rates, based on a target of 140/90 mm Hg, were derived from data in studies by Muntner et al[12] and Hardy et al.[22] AAFP = American Academy of Family Physicians; ACC = American College of Cardiology; ACCORD = Action to Control Cardiovascular Risk in Diabetes; ACP = American College of Physicians; AHA = American Heart Association; ALLHAT = Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial; ASH = American Society of Hypertension; BHS = British Hypertension Society; BPROAD = Blood Pressure Reduction in Older Adults with Diabetes; CALIBER = CArdiovascular research using LInked Bespoke studies and Electronic health Records; DASH = Dietary Approaches to Stop Hypertension; ESC = European Society of Cardiology; ESPRIT = Effects of Intensive Blood Pressure Lowering Treatment in Reducing Risk of Cardiovascular Events Trial; ESH = European Society of Hypertension; HTN = hypertension; ISH = International Society of Hypertension; ISHIB = International Society of Hypertension in Blacks; JNC = Joint National Committee; JSH = Japanese Society of Hypertension; MRFIT = Multiple Risk Factor Intervention Trial; NICE = National Institute for Health and Care Excellence; PREVER-Prevention = Prevention of Hypertension in Patients with PreHypertension Prevention; SPRINT = Systolic Blood Pressure Intervention Trial; STEP = Strategy of Blood Pressure Intervention in the Elderly Hypertensive Patients.

reducing cardiovascular events than a target range of 130 to 150 mm Hg.[5] The recently published BPROAD (Blood Pressure Reduction in Older Adults with Diabetes) trial further supports intensive treatment, showing that achieving an SBP target of <120 mm Hg significantly reduced major cardiovascular events in patients aged >50 years with type 2 diabetes.[8] Despite these findings, the 2024 ESC guidelines adopt a more conservative stance. They do not fully endorse initiating or treating to an SBP of <120 mm Hg, nor do they mention this target as a potential option for high-risk patients, reflecting a cautious deviation from the SPRINT, STEP, ACCORD (Action to Control Cardiovascular Risk in Diabetes), and BPROAD trials' target levels.[4,5,8,9] This approach is likely influenced by concerns over a higher incidence of adverse effects, such as symptomatic hypotension, acute kidney injury, and syncope requiring emergency care. Furthermore, other studies suggest that the atherosclerotic cardiovascular disease risk score may not adequately capture the risk of heart failure due to hypertension. For instance, a post hoc analysis of the SPRINT trial found that intensive BP lowering significantly reduced the incidence of heart failure, although this benefit was observed only in the highest risk tertile.[10] Additionally, a study using a unique pooled cohort equation to estimate the 10-year risk of heart failure found that many patients considered at high risk would have a low-to-moderate 10-year atherosclerotic cardiovascular disease risk. They, therefore, would not meet the criteria for intensive BP lowering. Although more data are

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needed to guide intensive BP lowering in lower risk populations, the current evidence supports offering high-risk patients the opportunity for intensive BP treatment to a target of <120 mm Hg. Nevertheless, the decision should consider the individual balance of risks and benefits.

THE HARSH REALITY OF POOR CONTROL

Despite numerous hypertension guidelines (**Figure 1**) and a general movement to more intensive BP lowering and a global focus on hypertension, hypertension detection, treatment, and control remain stubbornly low.[11] According to data from the NCD Risk Factor Collaboration, only 23% of women and 18% of men with hypertension worldwide have their BP under 140/90 mm Hg. In many high-income countries (including North American and Western European countries), the control rates are higher but remain suboptimal, with <50% of patients achieving BP control.

This phenomenon of losing ground is also evident in the United States, where national surveys, such as the National Health and Nutrition Examination Survey, have revealed a troubling decline in BP control rates.[12] Despite lower SBP treatment targets in guidelines being in place since 2017, <25% of adults with hypertension achieve the new BP targets (130/80 mm Hg) in 2020, and 50% do not even achieve the older targets (140/90 mm Hg).[13] In particular, racial and ethnic disparities in hypertension control remain a pressing concern. Black and Hispanic adults have disproportionately lower rates of BP control compared with their White counterparts,[14] leading to worse hypertension complications and cardiovascular outcomes such as stroke, heart failure, and chronic kidney disease.[15] In other countries such as China, the situation also warrants attention. Recent data suggest that, although awareness, treatment, and control of hypertension have improved, 85% of patients among those treated remains uncontrolled.[16] The Chinese or Asian guidelines have tailored their recommendations to reflect regional considerations, but the gap between guideline targets and actual BP control remains a challenge.

The juxtaposition between guideline aspirations and the current reality underscores the complexity of managing hypertension in diverse populations. Although guidelines advocate for intensive treatment, many patients face structural and socioeconomic barriers that prevent them from accessing care or adhering to treatment plans.[17] Additionally, clinical inertia—where providers are slow to adjust treatment or initiate more aggressive interventions—further contributes to the gap between guidelines and real-world outcomes.

RESEARCH AND IMPLEMENTATION NEEDS

Bridging the gap between the ambitious targets of the 2024 ESC guidelines and the current state of hypertension control requires focused research and implementation efforts. First, we need a deeper understanding of the barriers that prevent patients from achieving BP control, especially in underserved populations.[18] Although trials like SPRINT, STEP, and BPROAD provide strong evidence for the benefits of lower BP targets, more studies are needed to understand how these targets can be achieved in the real world, particularly in low-resource settings.

There is also a clear need for implementation science research to identify strategies to help translate the guidelines into everyday practice.[19] This work includes investigating the role of digital health tools, such as remote BP monitoring systems, mobile health apps, and electronic health record integrated decision support tools, in improving adherence and outcomes. Additionally, research should focus on how to engage patients in their care effectively, particularly through lifestyle interventions such as diet, exercise, and stress management, which remain underused despite their importance in managing hypertension. The guidelines also emphasize that hypertension can become resistant when treatment is not optimized, highlighting the need for a greater clinical focus on maximizing the benefits of first-line antihypertensive therapies, such as thiazide-like diuretics, angiotensin-converting enzyme inhibitors/angiotensin II receptor blockers, or calcium-channel blockers. In low-resource settings, where barriers to medication access and adherence are significant, implementing a low-dose polypill—a fixed-dose combination of antihypertensive agents—may provide a cost-effective strategy to simplify treatment, improve adherence, and enhance BP control at the population level.[1]

JACC AS A WILLING PARTNER

JACC is uniquely positioned to support the dissemination and adoption of these guidelines. As a leading platform for cardiovascular research and clinical practice, *JACC* can amplify key findings from implementation studies and showcase successful models of guideline adoption. By highlighting innovative approaches to hypertension management, such as the use of artificial intelligence to advance diagnosis and treatment plans[20] or community-based interventions

in underserved populations,[21] *JACC* can help to bridge the gap between evidence and practice.

Furthermore, *JACC* can facilitate ongoing dialogue between researchers, clinicians, and public health experts. This work is critical as we continue to explore the best ways to integrate these guidelines into diverse health care systems and ensure that the benefits of intensive BP control reach all populations, regardless of socioeconomic status or geographic location. The bottom line is that there is a need for concerted action worldwide to address the preventable harm that accrues from elevated BP.

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