

# The ACC/AHA 2017 Hypertension Guidelines: Both Too Much and Not Enough of a Good Thing?

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**W**ith the proliferation of hypertension guidelines in recent years, the 2017 guidelines from the American College of Cardiology and American Heart Association (ACC/AHA) (1) are a tour de force, encompassing an imposing 481 pages, 106 recommendations, 23 tables, and 11 figures and representing countless hours of systematic literature review. This level of meticulousness is not lost on those of us who spend our time contributing to and interpreting the hypertension literature. Nonetheless, the guidelines bombarded the intended audience—clinicians on the frontline of patient care—with a mountain of information that may have spawned as many questions as it answered.

Intended as an update to the 2003 Seventh Report of the Joint National Committee (JNC) (2), the 2017 AHA/ACC guidelines are most notable for lowering the recommended threshold for the diagnosis of hypertension from  $\geq 140/90$  mm Hg to  $\geq 130/80$  mm Hg in the general population. For individuals with preexisting cardiac disease, a high risk for cardiovascular disease, diabetes, or chronic kidney disease (regardless of proteinuria level), the guidelines recommend starting pharmacotherapy at a blood pressure (BP) of  $\geq 130/80$  mm Hg; for all others, they recommend initial lifestyle modification then pharmacotherapy for a BP of  $\geq 140/90$  mm Hg. According to data from the National Health and Nutrition Examination Survey published in the guidelines, the new diagnostic threshold dramatically increases the United States' population-wide burden of hypertension (1). In particular, among those younger than 45 years, the prevalence of hypertension will triple for men and nearly double for women. Regrettably, the younger group of patients most heavily affected by these changes are not well-represented in existing trials of aggressive BP lowering. Furthermore, despite the wealth of detailed recommendations, we lack guidance on how to act if these low-risk patients do not respond to the recommendation of 3 to 6 months of lifestyle modifications.

As a complement to their colossal size, the 2017 AHA/ACC guidelines are highly focused on class of recommendation and level of evidence. The class of recommendation is intended to identify the recommendation's strength; the level of evidence signifies quality of the literature supporting the recommendation. Unfortunately, the classifications often end up representing a convoluted circuitry littered with subjective inferences and caveats. In the context of such complex classification systems, general practitioners have historically interpreted guidelines as cumbersome, confusing, prone to bias, and lacking in credibility (3). In response to these concerns, many recent guidelines focused more

on clinical applicability, clarity, and brevity. For example, the American College of Physicians and American Academy of Family Physicians (ACP/AAFP) published guidelines for hypertension management in adults aged 60 years or older earlier this year (4) and included the results from SPRINT (the Systolic Blood Pressure Intervention Trial) in their systematic review. In stark contrast to the 2017 ACC/AHA guidelines, the ACP/AAFP guidelines echoed the conclusions of the 2014 report from the members appointed to JNC 8 (5) and recommended initiating treatment for hypertension in adults aged 60 years or older with systolic BP persistently  $\geq 150$  mm Hg, with a treatment goal of  $< 150$  mm Hg. These guidelines recommended lower treatment thresholds ( $> 140$  mm Hg) for persons with a history of stroke or transient ischemic attack or those at high risk for cardiovascular disease. They also focused heavily on patient comorbidities and existing treatment burden when selecting therapies and treatment goals.

The SPRINT results are a cornerstone of the changes recommended in the 2017 AHA/ACC guidelines (6). In this trial, patients aged 50 years or older at risk for cardiovascular disease were randomly assigned to reduction of systolic BP to  $< 120$  mm Hg versus  $< 140$  mm Hg. Those in the former group showed a significant cardiovascular and survival benefit. SPRINT was a rigorously designed and implemented multicenter endeavor; its results are undeniably important to inform the treatment of the select subset of patients similar to those enrolled in the study (7). That said, the results must be interpreted in the context of the real world. Participants in trials like SPRINT are more motivated than typical patients—they often have better adherence, greater interest in their health, and better longitudinal outcomes (8). In addition, as with any large trial, SPRINT benefited from crucial factors that are rarely available in the chaos of modern medicine: time, space, and resources. It included protocolized, repeated BP measurement using automated oscillometric devices, often in the absence of a clinician (thus precluding white coat hypertension). The new ACC/AHA guidelines emphasize the importance of accurate in- and out-of-office BP measurements and strongly encourage correct methodology. However, in an era of declining insurance reimbursement and hectic clinic workflows, proper measurement can be extremely challenging. In routine clinical practice, BP measurements may occur after patients rush into the clinic without time to rest, in loud waiting areas, while medical assistants concurrently ask questions to complete mandatory screening forms and medication reconciliations. Practitioner schedules usually allot 15 minutes in which to address a behemoth of

social and medical issues. The opportunity to check a quiet, accurate BP measurement is rare.

Understanding limitations of generalizing trial results to routine practice, the potential benefits of any guidelines must be considered along with their consequences. Guidelines frequently inform changes in policy and insurance reimbursement and can affect the physician-patient relationship. The Medicare Access and CHIP [Children's Health Insurance Program] Reauthorization Act and Merit-based Incentive Payment System may use these guidelines to define future health care payment models. Keeping that in mind, policymakers have tenaciously ignored home BP values when defining treatment goals. Changes to reimbursement-linked, in-office hypertension thresholds can reap grave consequences in practices where broad implementation of more time-consuming, careful BP measurement is idealistic, particularly when the benefit to certain patient groups (such as those with diabetes [9] and nonproteinuric chronic kidney disease [10]) remains unclear. Furthermore, the recent incongruity in guidelines may jeopardize patients' trust in the health care system. As providers, the most valuable conclusion we can convey to our patients is that a guideline is never a substitute for clinical judgment.

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