

## New data buttress SPRINT findings on 120 mm Hg BP target

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Hypertension is the leading preventable risk factor for cardiovascular disease (CVD) and premature death, but controversy remains in identifying the optimal target for blood pressure (BP) reduction. Most national and international guidelines for management of hypertension recommend a systolic BP target of less than 140 mm Hg, but recently published results of the Systolic Blood Pressure Intervention Trial (SPRINT) showed significant benefits of a lower BP target of less than 120 mm Hg.

Due to uncertainty in optimal goals for treatment of hypertension, recommendations for BP targets in clinical practice guidelines remain inconsistent, according to a *JAMA Cardiology* study by Joshua Bundy, MPH, and his colleagues. By finding the optimal BP target, CVD and premature death in general populations can be significantly reduced. The study suggests clinical guidelines should reflect the benefits of lower BP targets in patients with hypertension.

These new data reinforce lower is better in most, if not all, patient types, including those with diabetes and hypertension, argue *JAMA Cardiology* editors in an accompanying editorial.

### Lower is better, provided it's safe

In the editorial, *JAMA Cardiology* Deputy Editor Clyde W. Yancy, MD, and Editor Robert O. Bonow, MD, wrote that physicians “should not ignore the potential for harm attributed to lowering blood pressure too aggressively, particularly in the elderly, but those harms have not yet emerged to be more important than the benefits.”

Dr. Yancy is chief of the Division of Cardiology at Northwestern University Feinberg School of Medicine. He is also serving as associate director of clinical programs for the Bluhm Cardiovascular Institute and is a former president of the American Heart Association (AHA).

Dr. Bonow is the Goldberg Distinguished Professor of Cardiology at the Northwestern and director of the Center for Cardiovascular Innovation. He is also a former president of the AHA.

The reduction in BP targets helps in “reducing cardiovascular disease and decreasing morbidity,” Dr. Bonow told *AMA Wire*®.

For patients at risk for stroke, it was shown that a BP treatment goal of less than 130 mm Hg had the strongest benefit, according to the study. When compared with a BP of 160 mm Hg or higher, the lower BP rate (120 to 124 mm Hg) reduced the patient’s risk of CVD by 63 percent and mortality by 53 percent. And compared with a BP of 150 mm Hg that has been advocated by certain guideline statements, the reduction led to a 54 percent decrease in risk of CVD and 49 percent for mortality.

“We’ve needed clarity to understand who it is we need to treat most aggressively, what should be the expectations of that therapy and whether such an approach is safe,” Dr. Yancy told *AMA Wire*. “What has changed the conversation are new data in hand to suggest that we have a better idea whom it is that is at greatest potential benefit from lowering blood pressure—and that would be the person at greatest risk.”

According to the study by Bundy and colleagues, determining the optimal BP target can significantly improve the reduction of CVD and premature death in the general population. Through a network meta-analysis, they were able to combine data found in a series of studies and clinical trials to compare the different levels of lowering BP rates in patients with their risk for CVD, stroke, CVD mortality and all-cause mortality.

Even after excluding information from SPRINT, the network meta-analysis suggested lower is better for treatment and risk minimization. It suggests “a more intensive treatment target than currently recommended provides additional benefits for prevention of CVD complications and all-cause mortality.”

As physicians lower BP in patients, there is a parallel in the reduction of events, Dr. Yancy said.

“I believe the preponderance of data would say in those patients at greatest risk for cardiovascular events, the lower, the better, the longer—provided it’s safe—is the right strategy,” he added.

## Consider the environment

While lower is better, both Dr. Yancy and Dr. Bonow reiterate a need to take into context the environment in which the patient’s BP is taken. Understanding the environment can help physicians feel better about the risk-benefit ratio of achieving a lower BP.

Through a patient-by-patient approach, physicians can provide the best results. “Blood-pressure management should be individualized and done with patient safety in mind,” Dr. Bonow said.

He also emphasizes the need for physicians to recognize that BP in ambulatory practice is higher than in clinical trials, which means physicians need to ensure they are not too aggressive with treatment. He adds that the controversy lies in the difficulty of knowing the exact BP level because “what you see in the same patients is different in-office as opposed to clinical trial.”

Decisions about treatment should be based on accurate BP measurements. Blood-pressure determinations using standardized protocols in clinical trials, compared with home blood-pressure or office measurements may be highly varied, the cardiology experts said.

Replicating the measurement of BP in the office similar to the clinical trial is a reasonable practice, but that blood pressure is likely to be about 10 mm Hg higher than home blood pressures. Now that a lower BP goal of 120/80 may represent the new target, this should equate to an office-measured BP of 130/80 mm Hg, according to Dr. Yancy.. Physicians should also keep in mind that while the analysis suggests lower BP reduces risk, it is important to monitor patients with other conditions, as well as older patients, to ensure safety.

As BP falls, a concern arises about the influence of very low BP on the function of the organs that depend upon blood flow. Data would suggest that lowering BP to significantly lower levels increases the number of episodes of renal insufficiency, but not to the extent that it overwhelms the benefits, Dr. Yancy said.

“I think the risk burden should be acknowledged and explored. We should be in tune to risk but we should not be paralyzed by risk. We should use the newest information to reduce the hypertension induced burden of cardiovascular disease,” he added.

If physicians can help hypertensive patients avoid harm through the lowering of BP rates, then “lives will be saved, productivity extended and suffering from the consequences of hypertension will be reduced,” Drs. Yancy and Bonow wrote in the editorial.

“Current recommendations are in the process of revision. It will be interesting to see what blood pressure targets will be in new guidelines,” said Dr. Bonow.

The Million Hearts Hypertension Control Challenge is a federal competition to identify clinicians, practices and health systems that have achieved a hypertension control rate of 70 percent or greater among their patients with hypertension and award them with recognition for their work.

Target: BP™ is a national initiative co-led by the AHA and the AMA. In addition to direct access to trained field support specialists, a data platform and a suite of evidenced-based tools and resources

offered by the AMA and the AHA, Target: BP offers annual, recurring recognition for all participating sites that achieve hypertension control rates of 70 percent or higher among their adult patient population year over year.

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