

Studies explore potential benefits and costs of increased treatment to achieve lower blood pressure

November 11 2019



Credit: CC0 Public Domain

Two studies examining the benefits and costs of treating high blood pressure more intensively, by aiming for lower blood pressure measures,

will be presented at the American Heart Association's Scientific Sessions 2019—November 16-18 in Philadelphia.

A separate study analyzed the cost effectiveness of incrementally implementing [high blood pressure](#) treatment according to the 2017 American College of Cardiology/American Heart Association [blood pressure](#) guidelines to subgroups in order from highest to lowest risk of cardiovascular events and showed that targeting the highest risk patients would be cost-effective over 10 years.

Globally, an estimated 1.13 billion people have high blood pressure, or hypertension, which causes about 13% of all deaths, according to the World Health Organization. Almost 1,000 people in the U.S. die each day with high blood pressure as a primary or contributing cause, according to data from the Centers for Disease Control and Prevention.

Effect of Intensive Blood Pressure Control on Residual Life Span in the SPRINT Trial (Poster Presentation MDP233)

The research into hypertension care and life span found that with more intensive blood pressure control, focused on a target [systolic blood pressure](#) of less than 120 mm Hg, a 50-year-old could expect to live almost three years longer. In order to achieve the lower blood pressure target, patients adopted healthy lifestyle habits and took blood pressure medications as prescribed.

"These are important steps to prolong your life free from disease or disability," said lead study author Muthiah Vaduganathan, M.D., M.P.H., an instructor of medicine at Harvard Medical School and associate physician at Brigham and Women's Hospital in Boston. Brian Claggett, Ph.D., assistant professor of medicine at Harvard Medical School, was

the study's co-first author and initially developed these methods to estimate long-term benefits of interventions tested in shorter clinical trials.

At age 65, intensive treatment could extend life by more than a year, the research estimated. With intensive treatment, an 80-year-old would be expected to add almost 10 months to his or her life span.

"High blood pressure has been implicated as one of the reasons for stalled progress in reducing [heart](#) disease-related deaths in the United States," Vaduganathan said. "These data reinforce that tighter blood pressure control, especially when started earlier in life, may meaningfully prolong life span."

The new study builds on the 2015 findings of the landmark Systolic Blood Pressure Intervention Trial, or SPRINT, which tested the value of treating blood pressure intensively to reduce systolic readings to a lower target—below 120 mm Hg, instead of the routinely used target of below 140 mm Hg. SPRINT, which followed patients for up to six years, found that the intensive approach reduced patients' risk of cardiovascular events by 25%. These events included heart attack, stroke, heart failure and cardiovascular-related death.

SPRINT enrolled middle-aged and older adults with systolic readings of 130 to 180 mm Hg, who were at risk of heart disease but did not have diabetes. Patients were considered at high risk of heart disease if they had at least one of the following: evidence of cardiovascular disease other than stroke, a high 10-year cardiovascular risk score, chronic kidney disease or if they were age 75 or older. In this analysis, SPRINT data was evaluated to project the full life spans for patients treated intensively to meet the lower blood pressure target of 120 mm Hg and for those who received standard care (systolic blood pressure target of less than 140 mm Hg).

Across age groups, intensive treatment for high blood pressure lengthened patients' remaining life span by 4% to 9%, compared with standard care, the study found. "In contrast with the oldest patients, middle-aged patients had the greater absolute benefit because they start with a longer expected [life span](#) and can receive the intensive treatment over a longer period of time," Vaduganathan said.

"This analysis of the [SPRINT] trial suggests that there's additional years of life that can be added by more aggressive control of blood pressure," said Mitchell S.V. Elkind, M.D., American Heart Association president-elect, Chair of the Advisory Committee of the American Stroke Association—a division of the American Heart Association, and professor of neurology and epidemiology at Columbia University in New York. "When you tell people that lowering their blood pressure is going to reduce their chance of having a stroke or a heart attack, by 25%, which is what [SPRINT] showed, but what does that number mean, in real terms? This analysis suggests that for a man who is 50 years old, that lowering blood pressure to [the lower blood pressure] targets, could extend your lifespan by 3 years, on average."

Cost-Effectiveness of Treating Hypertension According to 2017 American College of Cardiology / American Heart Association Hypertension Guidelines (Poster Presentation MDP234)

The cost-effectiveness study explored how best to implement recent guidelines from the ACC/AHA, which lowered blood pressures defining hypertension from readings of 140/90 mm Hg or higher to 130/80 mm Hg or higher. In addition to treating all adults with blood pressures 140/90 mm Hg or higher, the 2017 guidelines recommend medication therapy for selected patients with blood pressures ranging 130-139/80-89 mm Hg if they have had a cardiovascular event such as a heart attack or

stroke or are at high risk for a first event within 10 years.

"Compared with hypertension guidance from the 2003 Seventh Report of the Joint National Committee, the 2017 ACC/AHA guidelines increased the number of people diagnosed and eligible for hypertension treatment and recommended blood pressure targets of

Citation: Studies explore potential benefits and costs of increased treatment to achieve lower blood pressure (2019, November 11) retrieved 3 May 2024 from <https://medicalxpress.com/news/2019-11-explore-potential-benefits-treatment-blood.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.