New hypertension guidelines could save lives and money

January 28 2015

Full implementation of new hypertension guidelines could prevent 56,000 cardiovascular disease events (mostly heart attacks and strokes) and 13,000 deaths each year, without increasing overall health care costs, an analysis conducted by researchers at Columbia University Medical Center (CUMC) found. The paper was published today in the online edition of the *New England Journal of Medicine*.

"Our findings clearly show that it would be worthwhile to significantly increase spending on office visits, home blood pressure monitoring, and interventions to improve treatment adherence," said lead author Andrew E. Moran, MD, MPH, the Herbert Irving Assistant Professor of Medicine at CUMC and a physician at NewYork-Presbyterian/Columbia. "In fact, we could double treatment and monitoring spending for some patients—namely those with severe hypertension—and still break even."

Earlier this year, an expert panel originally appointed by the National Heart, Lung and Blood Institute released new, simplified guidelines for the treatment of high blood pressure. The 2014 guidelines are less aggressive for some patients, shifting treatment targets to higher blood pressures. Fewer patients need treatment under the new guidelines, but according to Dr. Moran, "even with the more relaxed goals, an estimated 44 percent of adults with hypertension, or 28 million people, still do not have their blood pressure adequately controlled."

To evaluate the impact and cost-effectiveness of implementing the new

guidelines, the CUMC team ran a computer simulation—accounting for cost of treatment, savings from reductions in cardiovascular disease (CVD) treatment, and quality-of-life gains—for U.S. adults ages 35 to 74 from 2014 to 2024.

"Given rising health care costs and limited budgets, it's important to determine the cost-effectiveness of implementing the new guidelines and whether we should focus on specific patient subgroups," said study leader Lee Goldman, MD, MPH, Harold and Margaret Hatch Professor of the University and dean of the faculties of health sciences and medicine at CUMC.

The researchers found that full implementation of the new guidelines would save costs by reducing mortality and morbidity related to CVD. The cost savings were largely driven by favorable results from secondary prevention (measures taken after disease is diagnosed) in patients with CVD and primary prevention (measures taken to prevent disease) in those with stage 2, or severe, hypertension (defined below). Treating stage 1 hypertension was cost-effective in all men and women ages 45 to 74.

Curiously, the researchers found that treating women ages 35 to 44 with stage 1 hypertension and without CVD had intermediate- or low-value cost-effectiveness ratios. "Some people will be alarmed about our conclusion that it may not be cost-effective to treat hypertension in young adults, especially young women," said Dr. Moran. "It's worth noting that our analysis didn't capture the cumulative, lifetime effects of hypertension. It may well turn out to be cost-effective to treat this group if we look at data on costs and benefits over several decades. This warrants further study."

The study did not look at the cost-effectiveness of hypertension treatment in adults over the age of 74. The CUMC team is addressing

this question in a separate study.

"The overall message of our study is that every segment of our health care system, from small medical practices to large insurance companies, can benefit by improving treatment of hypertension," said Dr. Moran.

Stage 1 hypertension is defined as a systolic BP of 140-159 mm Hg or a diastolic BP of 90-99 mm Hg. Stage 2, or severe, hypertension is a systolic BP of 160 mmHg or higher or a diastolic BP of 100 mmHg or higher.

More information: The article is titled, "Cost-effectiveness of hypertension treatment according to 2014 guidelines."

Provided by Columbia University Medical Center