

# New online care for hypertension gets results

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## **Controlling blood pressure at home, on Web, nearly doubles proportion of successful patients, JAMA study reports**

Web-based care and at-home blood pressure checks can help control hypertension without office visits, according to the "e-BP" (Electronic Blood Pressure) study of more than 700 Group Health patients published in the June 25 *Journal of the American Medical Association*.

"To our knowledge, this is the first large randomized controlled trial to use Web-based care and a patient-shared electronic medical record to improve treatment outcomes of a chronic disease," said study leader Beverly B. Green, MD, MPH, a family doctor and researcher at Group Health, a Seattle-based nonprofit health system coordinating care and coverage. "We shifted health care from the doctor's office to where people live: in their homes—and online," she added.

Web-based care nearly doubled the percentage of people whose blood pressure was controlled (under 140/90 mm Hg), Dr. Green said. "And in the people with the highest blood pressure (at least 160 mm Hg systolic), who are usually hardest to treat, this Web-based care nearly tripled the proportion whose hypertension was under control."

Eligible Group Health patients with uncontrolled hypertension and Internet access were randomly assigned to groups. One group got home monitors to track their own blood pressure—and care from pharmacists over a secure Web site. On e-mail, pharmacists helped patients set lifestyle goals and also followed standard guidelines to boost doses, switch, and combine hypertension drugs. "Secure e-mail communication

made it easier for the health care team to work closely with patients to improve care," Dr. Green said.

The comparison group got usual care. At Group Health that includes a secure Web site where patients and health teams share access to electronic medical records. "By identifying and contacting the patients in usual care, and telling them to work with their doctors to control their blood pressure, we helped get many of those patients under control," Dr. Green said. "The Web-based care from pharmacists and regular home blood pressure monitoring helped get nearly twice as many patients under control, with average blood pressure drops of 14 points systolic and 7 points diastolic." Next step? Seeing if Web care cut health costs.

"Patients may visit their doctors once a year, or less often," Dr. Green said. "But their blood pressure can be out of control between visits. So patients should be involved in their care and take their own blood pressure more often, at home." That's just what the American Heart Association and other groups advised last month.

Around one in three U.S. adults have diagnosed hypertension, Dr. Green said. Less than half of them have their blood pressure under control, because hypertension seldom has symptoms. Blood pressure tends to rise with age and weight, so the "silent killer" is spreading as Americans grow older and heavier.

"Studies have shown that adequate blood pressure treatment saves lives by lowering illness and deaths," Dr. Green said. Uncontrolled hypertension can lead to stroke, heart attacks, heart failure, and kidney disease.

The National Heart, Lung, and Blood Institute (NHLBI), one of the National Institutes of Health (NIH), funded Dr. Green's e-BP study. Her co-authors are Group Health's Andrea J. Cook, PhD; James D. Ralston,

MD, MPH; Paul A. Fishman, PhD; Sheryl L. Catz, PhD; James Carlson, PharmD; David Carrell, PhD; Lynda Tyll, RN, MS; Eric B. Larson, MD, MPH; and Robert S. Thompson, MD.

"This study is an example of good implementation science," said Michael Lauer, MD, director of the NHLBI's Division of Prevention and Population Sciences. "This kind of work, examining how to translate prior research discoveries into real benefits for patients, is critical to our efforts to maximize the value of the research the NIH supports."

Source: Group Health Cooperative Center for Health Studies

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