

Home-based hypertension program produces 'striking' results

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Hypertension, or high blood pressure, is a widespread clinical problem affecting nearly half of all adults. Despite the serious consequences that can result from hypertension, which puts patients at increased risk for heart attacks, strokes and other cardiovascular events, elevated blood pressures often remain untreated or undertreated for years, and the control rate for hypertension hovers at just 50 percent. Seeing opportunities for improvement, innovators and clinicians at Brigham and Women's Hospital have developed a new home-based, care-delivery program aimed to improve hypertension control rates quickly and at significantly lower cost than traditional, office-based blood pressure programs. The new approach, piloted among 130 participants, helped 81 percent of patients bring their blood pressures under control in, on average, just seven weeks. The results of the pilot study are published this week in *Clinical Cardiology*.

"This is a striking result, especially given the very short time frame in which control was reached: an average of seven weeks," said corresponding author Naomi Fisher, MD, director of the Hypertension Service and Hypertension Specialty Clinic at the Brigham. "There are a few notable health care systems that have matched or exceeded this control rate, but most clinical practices do not approach this rate of success."

To overcome some of the challenges that clinical practices face, Fisher and colleagues combined several innovative strategies to create their program. Enrolled participants each received a Bluetooth-enabled [blood](#)

pressure device that could automatically transmit the blood pressure measurements [patients](#) took at home into their electronic medical records. Patients had easy and frequent access to "patient navigators"—non-physicians who had been trained to use a clinical algorithm developed by hypertension specialists. The program enabled rapid assessment and medication dosage adjustments for the patients.

The pilot was conducted as a prospective cohort study. The team enrolled 130 patients whose blood pressure was uncontrolled (greater than 140/90 mmHg). Patients were recruited from two clinics to test efficacy in two settings: a Brigham primary care clinic (800 Huntington Ave.), and the Brigham's Watkins Cardiovascular Clinic. All adults were eligible except pregnant women and those with advanced kidney disease. Enrolled patients were given a Bluetooth-enabled blood pressure device and taught how to use it. Patients were instructed to measure their blood pressure at home twice daily in duplicate. Medication adjustments were made every two weeks until home blood pressure was controlled at

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