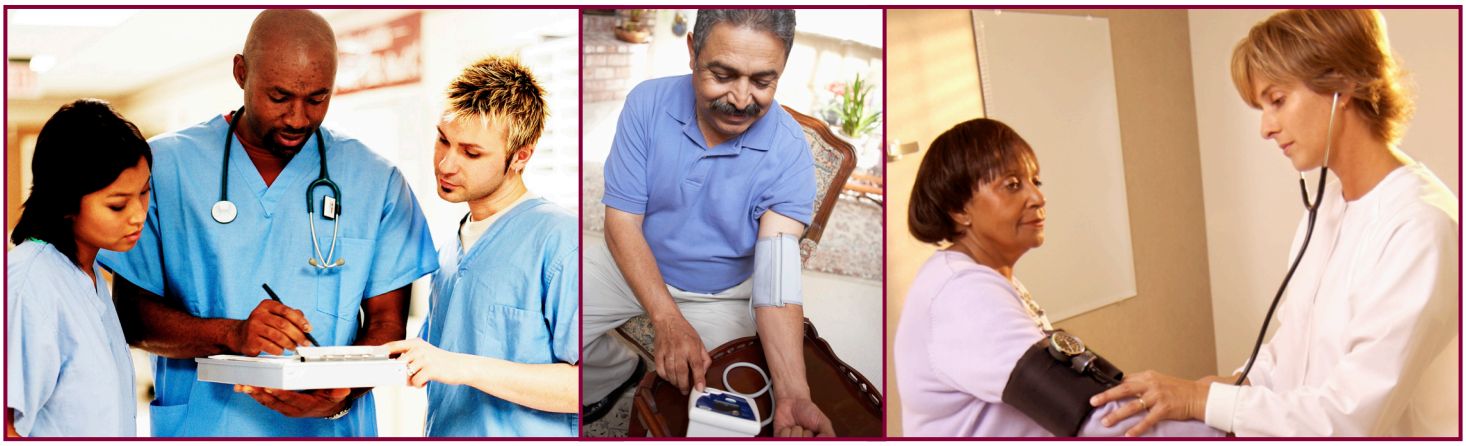
SCIENCE-IN-BRIEF

TURNING SCIENCE INTO ACTION

Using Self Blood Pressure Monitoring to Manage Uncontrolled Blood Pressure in Medically Underserved Areas

The following is a synopsis of "Integrating Self Blood Pressure Monitoring into the Routine Management of Uncontrolled Hypertension," published in the March 2013 issue of the *Journal of Clinical Hypertension.*



What is already known on this topic?

High blood pressure is a major risk factor for cardiovascular disease (CVD), the leading cause of death among adults in the United States. One in three American adults has high blood pressure, yet only about half (47%) have it under control. In addition, high blood pressure is a significant contributor to health disparities. The prevalence of high blood pressure is higher for blacks compared to the general population, and the rate of blood pressure control is lower in black and Hispanic patients compared with white patients.

New, effective disease management tools for clinical care are needed to improve blood pressure control. One such tool is self blood pressure monitoring (SBPM), defined as regular use of a personal blood pressure measurement device by a patient outside of a clinical setting. Studies have shown improved blood pressure control with the use of SBPM, but evidence for improvement in low-income and minority populations is limited due to barriers such as monitor cost and lack of clinical guidance.

What is added by this document?

The New York City Department of Health and Mental Hygiene collaborated with 20 ambulatory care clinics in medically underserved neighborhoods to integrate SBPM into the routine management of uncontrolled blood pressure. Multidisciplinary clinical staff participated in a formal 1-hour on-site training session, and each site received up to 200 automated upper arm blood pressure monitors free of charge. Staff followed patients for 9 months and evaluated the effectiveness of the program using existing clinic resources and infrastructure.

Nine months after enrollment, patients' systolic and diastolic blood pressure measurements decreased by an average of 18.7 mmHg and 8.5 mmHg, respectively. Overall, more than half (52.5%) of patients had controlled blood pressure at follow-up.

Clinicians were generally supportive of the program and reported that use of SBPM showed substantial improvements in blood pressure control. Most could track and collect follow-up blood pressure measurements during regularly scheduled

office visits; however, most clinics also found it challenging to integrate the program into their standard practices, despite the availability of several patient tracking methods, such as using stickers on medical charts to identify participants.

What are the applications for these findings?

Evaluation results from this program suggest that integrating SBPM into routine blood pressure management for patients with uncontrolled hypertension is feasible and worthwhile in clinics of varying sizes and resource levels. Providing free blood pressure monitors removed a significant barrier of cost for these patients and clinics. The use of electronic health records in the future may facilitate SBPM integration and lessen the challenge of collecting follow-up data. For broader implementation, an investigation is needed of existing insurance policies related to coverage for the purchase of monitors.

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) only recommends self-monitoring of blood pressure as a practical approach to assess differences between blood pressure readings from office and out-of-office settings. *JNC 8* guidelines are forthcoming and may revise these recommendations.

What are the implications for public health practice?

Other public health agencies can use this program's collaborative approach as a model. Agencies can leverage their expertise to help develop a clinical initiative; identify clinical partners in high-priority or medically underserved communities; and provide content expertise, staff training, patient resources, and technical assistance for implementation in settings with limited resources. Collaborations between public health agencies and primary care clinics have great potential to address health disparities through the promotion of effective treatment approaches that could be adapted and disseminated widely.

Resources

Centers for Disease Control and Prevention
Fast Stats: Leading Causes of Death
www.cdc.gov/nchs/fastats/lcod.htm

High Blood Pressure
www.cdc.gov/bloodpressure

Vital Signs: Getting Blood Pressure Under Control
www.cdc.gov/vitalsigns/hypertension

Million Hearts™
Self-Measured Blood Pressure Monitoring: Action Steps for Public Health Practitioners
www.millionhearts.hhs.gov/Docs/MH_SMBP.pdf

National Heart, Lung, and Blood Institute
The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)
www.nhlbi.nih.gov/guidelines/hypertension

Citation

Angell S, Guthartz S, Dalal M, Foster V, Pogue V, Wei A, et al. Integrating self blood pressure monitoring into the routine management of uncontrolled hypertension: translating evidence to practice. *J Clin Hypertens*. 2013;15:180–5.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Chronic Disease Prevention and Health Promotion
Division for Heart Disease and Stroke Prevention

For more information please contact Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov