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Improving Blood Pressure Control in the United States: At the Heart of Million Hearts 2027

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Million Hearts, a national initiative co-led by the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare and Medicaid Services (CMS), was launched in 2012 to focus and drive improvement on a small set of high-impact strategies known to prevent heart attacks, strokes, and other acute cardiovascular events. Optimizing the “ABCS” of cardiovascular disease prevention (Aspirin when appropriate, Blood pressure control, Cholesterol management, and Smoking cessation) has been at the heart of the initiative. Internal analyses suggest that compared to improvements in aspirin use for secondary prevention, cholesterol management, and smoking cessation, achieving national BP control (>80%) will prevent the greatest number of cardiovascular events in a 5-year period.

Almost half of adults in the United States have hypertension, and only 1 in 4 has their BP controlled (<130/80 mm Hg).¹ When it comes to BP control, we know *what* to do. There are effective strategies; we have the knowledge, tools, and resources. What we know less about is *how* to widely implement what works. How do we effectively scale and spread evidence-based strategies? How do we overcome systemic inequities that drive disparities in health? How do we leverage policy to support widespread implementation?

This work is written by (a) US Government employee(s) and is in the public domain in the US.

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RECOGNIZING A DECADE OF MILLION HEARTS

For over a decade, Million Hearts has focused on improving BP control by calling attention to a small set of evidence-based strategies, recognizing high-performing clinicians and health care settings, and supporting implementation. Since 2012, Million Hearts has recognized 143 “Hypertension Control Champions” from 42 states and the District of Columbia that have achieved exemplary levels of BP control (defined as < 140/90 mm Hg; 70% from 2012 to 2017 and 80% from 2018 to present). These champions care for over 15 million patients, including 5 million with hypertension. Hypertension control has been achieved with treatment protocols delivered by multidisciplinary teams, frequent follow up visits, self-measured BP monitoring (SMBP), use of data for quality improvement, electronic health record-based patient registries, and clinician champions of BP control.²

In the first 5-year cycle (2012–2016) of Million Hearts, this collective effort prevented an estimated 135K acute cardiovascular events, resulting in \$5.1B in healthcare costs averted.³ During this time, Million Hearts informed new national initiatives designed to drive improvement in BP control including Agency for Healthcare Research and Quality’s EvidenceNOW in 2015, American Medical Association/American Heart Association’s Target BP in 2017, and CMS Center for Medicare and Medicaid Innovation’s Million Hearts Risk Reduction Model in 2017. Despite significant pandemic-related challenges, in its second 5-year cycle (2017–2022) Million Hearts continued to focus on BP control and contributed to the 2020 *Surgeon General’s Call to Action to Control Hypertension*, and its outgrowth, the Federal Hypertension Control Leadership Council; additionally Million Hearts was fodder for the National Hypertension Control Initiative, a \$32M investment from the Department of Health and Human Services Office of Minority Health and the Health Resources and Services Administration. This effort is designed to assist ~500 community health centers to use SMBP to improve BP control.

SUPPORTING IMPLEMENTATION OF EVIDENCE-BASED STRATEGIES

Since its inception, Million Hearts has served as a learning lab to catalyze real-world implementation of evidence-based strategies for BP control. The Million Hearts team uses data and information to identify challenges, assesses policies for gaps and opportunities, and translates science and practice into implementation guidance. Million Hearts partners, including high performers, generously share lessons, pool assets, leverage synergies, and disseminate advances in science and practice (Figure 1).

Clinical quality improvement is a foundational principle of Million Hearts. To accelerate improvement, CMS and CDC have co-led the alignment of clinical quality measures related to BP control.⁴ For clinical teams committed to excellence in BP control, Million Hearts has gathered effective strategies, tools, and resources in the *Million Hearts Hypertension Control Change Package (HCCP)*, now in its second edition. Among the HCCP strategies are medication initiation and intensification, use of SMBP, and approaches to identify patients with undiagnosed hypertension.

The most recent clinical guideline, from the American College of Cardiology and the American Heart Association, recommends initial treatment with two antihypertensive medications for most people with hypertension.⁵ Yet, of the 67.8M adults with uncontrolled BP for whom antihypertensives are recommended, 50.4% are untreated and 19.9% are treated with monotherapy.^{1,6} Studies suggest that high levels of BP control could be achieved if treatment was intensified in at least 62% of office visits for patients with uncontrolled BP.⁷ However, currently treatment is intensified in only 1 in 6 (17%) visits.⁸ Hypertension treatment protocols are effective tools to help clinical teams initiate and intensify antihypertensive medications. Protocols standardize care and life-style advice, enhance use of appropriate medications including fixed-dose combinations (FDCs), improve timeliness of follow up, reduce time to control, and support team-based care in hypertension management.⁹ The Million Hearts website houses protocols from health care systems that have demonstrated high levels of BP control and provides guidance on creating a protocol. Million Hearts has created state summaries of Medicaid and Medicaid managed care organization coverage of FDCs and combines both assets to support better BP control in community health centers.

SMBP is an effective strategy that increases the likelihood of medication intensification and improves BP control.¹⁰ To promote implementation of SMBP, Million Hearts has created action guides for public health professionals and clinicians, collaborated on SMBP-related surveillance, provided recommendations for SMBP use in the general hypertensive and pregnant populations, and supported the AMA's assessment of Medicaid coverage for SMBP devices and related services. For the past several years, Million Hearts has led efforts with the Public Health Informatics Institute to streamline health information technology related to SMBP data transmission from patients to clinicians, most recently joining forces with CardX, an HL7 Fast Healthcare Interoperability Resources (FHIR) accelerator. Million Hearts also curates an SMBP-focused webpage that showcases the "best of the best" resources from many implementers. Lastly, the quarterly Million Hearts SMBP Forum, co-hosted with the National Association of Community Health Centers, provides an opportunity for cross-pollination, problem-solving, and other implementation support.

Strategies like treatment protocols and SMBP are critical to improve outcomes for people with diagnosed hypertension. Within health care systems, clinical teams should also pay attention to identifying patients with multiple elevated BP readings and no International Classification of Diseases, 10th edition (ICD-10) diagnosis code for hypertension.¹¹ Patients who do not have a hypertension ICD-10 code may be less likely to receive treatment and may not be captured in patient registries used to identify patients who are eligible for clinical interventions. This is true in the general population with hypertension, as well as populations with hypertensive disorders of pregnancy.¹² Dubbed "hiding in plain sight", these patients are within the system, but missed by their clinical teams. Population health management strategies can reveal these at-risk patients and help those with confirmed hypertension efficiently achieve control.¹¹ Million Hearts has worked with community health centers across the country to implement such strategies.

MILLION HEARTS 2027: AIMING FOR IMPACT

After decades of improvement, national BP control rates began to trend downward around 2013.¹³ The COVID-19 pandemic compromised in-person health care visits; led to a rise in telemedicine visits (many of which lacked BP data); and created obstacles in obtaining BP medications and in maintaining healthy diets and regular physical activity.¹⁴ In addition, care for acute and chronic conditions was delayed or missed.¹⁴ Consequently, BP control in the United States is likely even worse than it was pre-pandemic.¹⁵ This is a time of ongoing and converging syndemics: an unhealthy population due to a high burden of chronic disease and related cardiovascular disease risk, COVID-19 related challenges and consequences, and stark health disparities from deep-rooted inequities in the social conditions that lead to health. All of these present significant barriers to BP control.

Improving blood pressure control is at the heart of Million Hearts 2027, now in its third 5-year cycle. Priorities include building healthy communities, optimizing care, and focusing on health equity (Table 1). Million Hearts is advancing equity in BP control in some of the highest burdened populations. The initiative targets improved detection and control of hypertension during and following pregnancy, in racial and ethnic minority groups, in people with lower incomes, and in those living in rural areas or other “access deserts”. Million Hearts is addressing inequities through several projects, including spreading the barbershop model of hypertension medication management in trusted spaces through real-world, health center-led initiatives. In addition, Million Hearts is collaborating with partners to address SMBP implementation barriers in pregnant and postpartum individuals with hypertensive disorders of pregnancy. Importantly, Million Hearts continues to make connections and foster partnerships between public health professionals and clinicians at the state and local level to achieve better BP control.

Uncontrolled and undetected hypertension has adversely impacted the United States and countries around the globe for decades, creating vulnerabilities and disparities magnified by the pandemic. At this time, when BP control is decreasing nationally and disparities in control rates and health outcomes persist, we re-issue the call to make hypertension control a national priority. As Leonardo da Vinci said, we are “impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do”. On behalf of and in gratitude for Million Hearts partners across the country, we have shared resources, progress, and opportunities for effective action, and are confident that tackling BP control together will lead to a healthier, more resilient, and productive nation.

Data Availability

There are no new data associated with this article.

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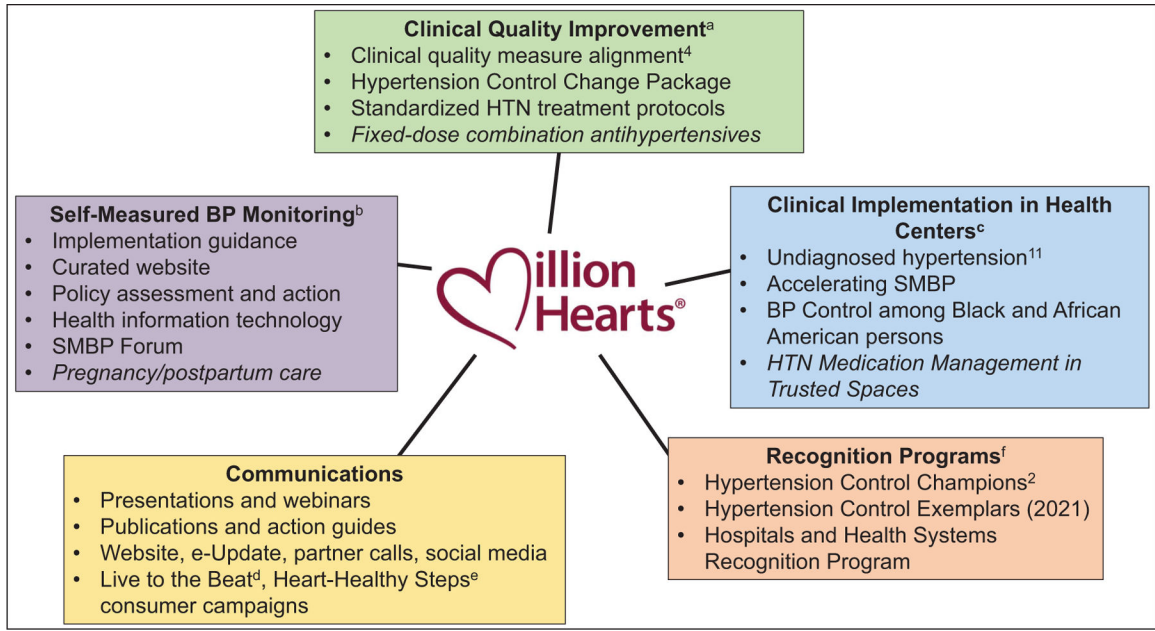


Figure 1. Million Hearts Blood Pressure Control Footprint, 2012-present. Italicized text indicates new to Million Hearts 2027. HTN, hypertension; BP, blood pressure; SMBP, self-measured blood pressure monitoring. ^aSee <https://millionhearts.hhs.gov/about-million-hearts/optimizing-care/bp-control.html>. ^bSee <https://millionhearts.hhs.gov/about-million-hearts/optimizing-care/smbp.html>. ^cSee <https://www.nachc.org/clinical-matters/nachc-million-hearts-initiative/>. ^dSee <https://www.livetothebeat.org/>. ^eSee <https://hearthealthysteps.org/>. ^fSee <https://millionhearts.hhs.gov/partners-progress/index.html>.

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Table 1.Million Hearts 2027 Priorities^a

Priority	Focus areas
Building healthy communities	<ul style="list-style-type: none"> • Decrease Tobacco Use • Decrease Physical Inactivity • Decrease Particle Pollution Exposure
Optimizing care	<ul style="list-style-type: none"> • Improve Appropriate Aspirin or Anticoagulant Use • Improve Blood Pressure Control • Improve Cholesterol Management • Improve Smoking Cessation • Increase Use of Cardiac Rehabilitation
Focusing on health equity	<ul style="list-style-type: none"> • Pregnant and Postpartum Women with Hypertension • People from Racial/Ethnic Minority Groups • People with Behavioral Health Issues Who Use Tobacco • People With Lower Incomes • People Who Live in Rural Areas or Other “Access Deserts”

Bold text denotes focus areas related to blood pressure control.

^aSee <https://millionhearts.hhs.gov/about-million-hearts/index.html>.