

A LOCAL HEALTH DEPARTMENT AND COMMUNITY TOOLKIT
FOR IMPROVING HYPERTENSION OUTCOMES

SET YOUR HEART ON HEALTH



WISCONSIN DEPARTMENT
of HEALTH SERVICES



*Working together,
we can advance
heart health and
save lives!*

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LETTER FROM THE STATE HEALTH OFFICER

Dear Colleagues:

The Wisconsin Department of Health Services Division of Public Health (DPH) is excited to share the Set Your Heart on Health toolkit. Hypertension (high blood pressure) significantly increases the risk for heart disease and stroke, which account for 1 in every 3 deaths in Wisconsin. Approximately 1.3 million Wisconsin adults have hypertension, and half of those with high blood pressure do not have it under control. Of those whose blood pressure is not controlled, about 1 in 6 is unaware that they even have hypertension.

This toolkit was inspired by three Association of State and Territorial Health Officials (ASTHO) Million Hearts® Wisconsin pilot sites working to improve hypertension outcomes through community-clinical partnerships in Milwaukee, West Allis, and Green County. Fostering bi-directional referrals from public health departments and community partners to health care systems increases hypertension awareness and control among Wisconsin residents, and improves cardiovascular health outcomes.

DPH staff and partners compiled this toolkit from the protocols, workflows, policies, and materials created by the three ASTHO Million Hearts® Wisconsin pilot sites. These materials outline implementation of preventative hypertension strategies in communities, and can be easily adapted to fit a specific community's needs. Workflows, blood pressure screening forms, community coalition agreements, and educational materials, such as fact sheets in multiple languages, can be easily downloaded and customized for a specific location. Moreover, referral protocols and policies for blood pressure screening may assist departments in meeting requirements for Wisconsin's 140 Review (Community Health Assessments and Community Health Improvement Plans). Health departments may also consider using some of the customized materials for public health accreditation.

DPH aims to broadly disseminate this toolkit to all local health departments and communities. We believe through sharing and replicating these hypertension policies and materials, in addition to providing consistent heart health messaging, Wisconsin can improve hypertension prevention and control outcomes.

Please promote and use this toolkit with peers, community and clinical partners, and the public you serve. Working together, we can advance heart health and save lives!

Sincerely,

Karen McKeown, RN, MSN
State Health Officer and Administrator, Division of Public Health
Wisconsin Department of Health Services

TOOLKIT USE



01

WHO SHOULD USE THIS TOOLKIT?

This toolkit is designed primarily for local health department health officers and staff, as well as health boards. Community partners, health systems leadership, managers, providers, clinicians, pharmacists, health extenders (community health workers, parish and public health nurses, and dentists) may also find the toolkit useful.

02

HOW TO USE THIS TOOLKIT?

This toolkit and its materials are to be referenced and downloaded electronically. They are designed to be easily edited and adapted for health department, health system, and community-clinical use.

03

WHY SHOULD I USE THIS TOOLKIT

This toolkit aims to improve hypertension outcomes by strengthening collaboration between local health departments and health systems. It provides a shared repository of information and resources from which local health departments and health systems can draw. It also includes key facts for local health departments to use in hypertension outreach, education, and awareness.

SPOTLIGHT

GREEN COUNTY AS A COMMUNITY CHIEF HEALTH STRATEGIST

No community in Wisconsin is untouched by hypertension and its related cardiovascular consequences, like heart disease. Green County Health Officer RoAnn Warden reminds people that “heart disease is the number one cause of death in her county, and that hypertension plays a very significant role.”

RoAnn believes “Public health is a leader when it comes to hypertension prevention and heart health promotion, and has an important role to play as the ‘community chief health strategist.’”

A community chief health strategist:

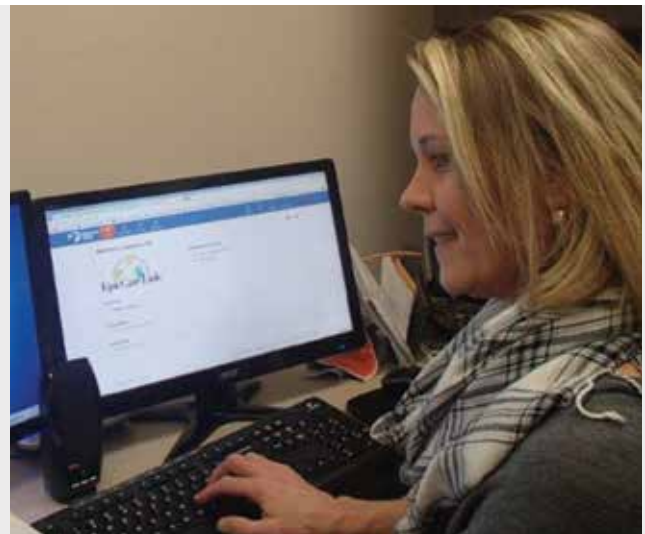
- Addresses the growing gap between the expansion of health care services and the achievement of health among individuals and communities.

- Underscores the need for new and sustained leadership at the community level.
- Brings community stakeholders together to prioritize the needs of the community.
- Engages communities to identify and support policy solutions, and collect, analyze, and share data.
- Leverages resources to build integrated systems to achieve health equity.

RoAnn acknowledges that in their role as community chief health strategists, “local health departments are well-positioned to improve hypertension outcomes in their communities.”

“PUBLIC HEALTH IS A LEADER WHEN IT COMES TO HYPERTENSION PREVENTION AND HEART HEALTH PROMOTION, AND HAS AN IMPORTANT ROLE TO PLAY AS THE ‘COMMUNITY CHIEF HEALTH STRATEGIST.’

— ROANN WARDEN
GREEN COUNTY HEALTH OFFICER

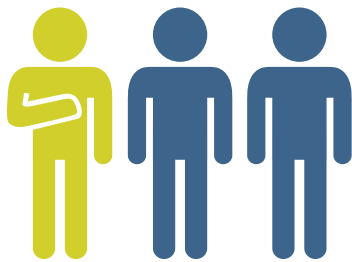


KEY HYPERTENSION FACTS AND TALKING POINTS

ABOUT HIGH BLOOD PRESSURE

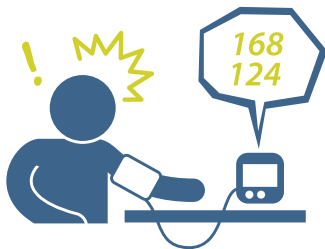
Blood pressure is the force of blood pushing against vessel walls. High blood pressure (hypertension) is a condition in which the pressure in your arteries is higher than it should be. High blood pressure is sometimes called “the silent killer” because it has no symptoms, so people may not be aware that it’s damaging their arteries, heart, and other vital organs.

DID YOU KNOW?



HIGH BLOOD PRESSURE (HYPERTENSION) CAN LEAD TO A HEART ATTACK OR STROKE.

In Wisconsin, about 10,000 adults are hospitalized for heart attacks, and 14,000 for stroke each year.^{1,2}



APPROXIMATELY 1 IN 3 WISCONSIN ADULTS

(1.3 million) are living with high blood pressure (hypertension).³

NEARLY HALF OF THOSE WITH HIGH BLOOD PRESSURE do not have it under control (uncontrolled).⁴



ABOUT 3 IN 4 WISCONSIN ADULTS WHO ARE DIAGNOSED WITH HIGH BLOOD PRESSURE take their blood pressure medications as prescribed.⁵

Of those with uncontrolled high blood pressure, about **1 IN 6 ARE UNAWARE THEY EVEN HAVE IT** (97,000 adults).⁴

19.3%

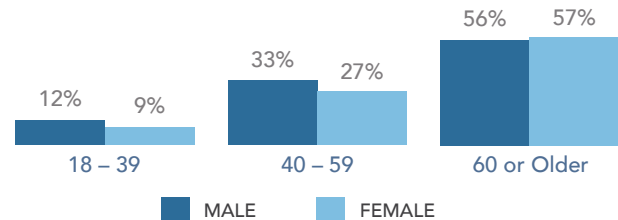
Of those with diagnosed hypertension,
NEARLY 20% ALSO HAVE DIABETES.³

CONTINUED

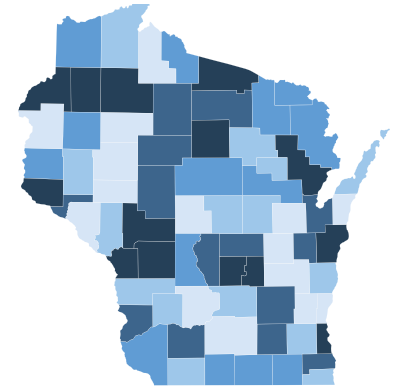
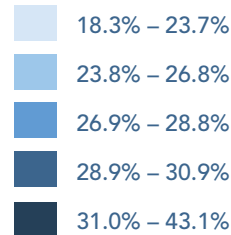
KEY HYPERTENSION FACTS AND TALKING POINTS

DID YOU KNOW?

The rates of high blood pressure significantly increase with age. In Wisconsin, over 50% of men and women over age 60 have high blood pressure (figure 1).



Diagnosed hypertension varies by county and in a county ranges from 18% to 43% of the entire adult population. See Appendix A (page 30) for individual county percentages.



COMMON RISK FACTORS FOR HYPERTENSION⁶

Conditions

Diabetes, prehypertension (blood pressure that is slightly higher than normal)

Behaviors

Unhealthy diet, physical inactivity, obesity, too much alcohol, tobacco use

Other Characteristics

Race or ethnicity: African-Americans develop high blood pressure more often than other racial and ethnic groups. Compared to whites, African-Americans also develop high blood pressure earlier in life.

130/80 MM HG IS THE NEW HIGH

In November 2017, new target guidelines and treatment regulations were released from the American Heart Association (AHA) and the American College of Cardiologists (ACC). For many years, hypertension was classified as a blood pressure reading of 140/90 mm Hg or higher, but the updated guideline lowers that threshold to 130/80 mm Hg. The AHA/ACC's full 2017 Guideline for the Prevention, Detection, Evaluation and Management of High Blood Pressure in Adults can be found on the [AHA journal website](#). For an abbreviated clinical guide, visit the ACC's website for the [Guidelines Made Simple](#) publication.

MILLION HEARTS® INITIATIVE IN WISCONSIN

In 2012, the U.S. Department of Health and Human Services established Million Hearts®, an initiative co-led by the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services, that aimed to prevent one million heart attacks and strokes. Million Hearts® brought together community organizations, health systems, nonprofit organizations, state and federal agencies, and private-sector partners from across the country to fight heart disease and stroke, and help Americans live longer, more productive lives. For more information on the Million Hearts® initiative, please visit www.millionhearts.hhs.gov.

Million Hearts® Wisconsin

A Public-Private Collaboration to Reduce Heart Attacks and Stroke

Million Hearts® Wisconsin promotes clinical prevention and team-based care to improve blood pressure management by using the ABCS (aspirin therapy, blood pressure control, cholesterol control, and smoking cessation) with an emphasis on controlling blood pressure. Million Hearts® Wisconsin supports system-level engagement, community-clinical linkages, blood pressure self-monitoring, medication adherence, and lifestyle changes. Efforts target individuals with the highest risk for hypertension, and populations disproportionately affected by heart disease and stroke (African-Americans, Hispanic, Asian, and Native Americans).

Moving forward, the Million Hearts® initiative in Wisconsin aims to prevent 3,000 heart attacks and strokes by 2022.

Visit www.dhs.wisconsin.gov/heart-disease/million-hearts.htm



ASTHO MILLION HEARTS® LEARNING COLLABORATIVE

A LOOK BACK: 2015–2017



The Association of State and Territorial Health Officials (ASTHO) spearheaded a Million Hearts® state learning collaborative focused on hypertension identification and control. The Wisconsin Division of Public Health's Chronic Disease Prevention Program (CDPP) and partners began participating in 2015 alongside 19 state public health agencies implementing evidence-based practices to improve hypertension identification and control.

Wisconsin CDPP led a team of state and local partners including local health departments, community-based organizations, faith communities, health systems and clinics, and quality improvement organizations to establish bi-directional referral systems between community blood pressure screening, clinical health care, and community resources. These systems were tested in three pilot sites: Milwaukee, West Allis, and Green County.

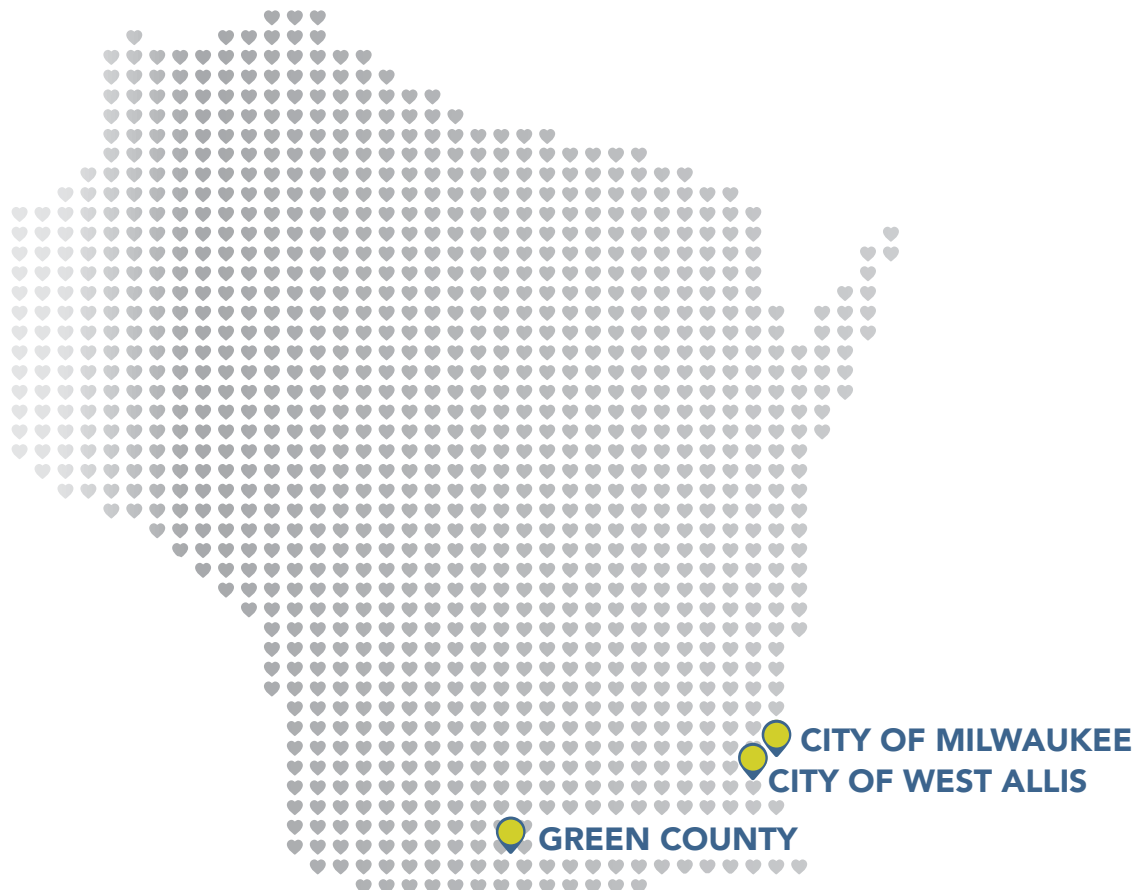
Evidence-Based Practices Implemented in Wisconsin to Identify and Control Hypertension

- Community health extenders: parish and public health nurses, community health workers, and promotoras (from a Spanish term for "community health workers")
- American Heart Association's "Check. Change. Control." (CCC) program and Heart360 tools for self-management of blood pressure
- Team-based care approaches for blood pressure control and management
- Electronic medical record and health information technology algorithms utilized by health system partners to identify patients with two high blood pressure readings and no hypertension diagnosis ("Hiding in Plain Sight")

ASTHO MILLION HEARTS® LEARNING COLLABORATIVE WISCONSIN PILOT SITES

ASTHO's Million Hearts® Learning Collaborative focused on populations in three pilot sites in Wisconsin: city of Milwaukee, city of West Allis, and Green County. Partners at the Milwaukee site concentrated on hypertension identification and control efforts to serve African-American residents living within two urban ZIP codes. Efforts at the West Allis site worked to reach the total Hispanic and Latino population. At the Green County site, rural county residents were the primary population of focus. In all, the three target populations comprise about 19,000 adults.

These pilot sites all utilized community-clinical referrals that incorporated strategies and approaches aimed at improving population-level hypertension outcomes and achieving health equity. Initiative strategies effectively strengthened community-clinical linkages by engaging community health workers, promotoras, public health nurses, and parish nurses. These health extenders screened, provided outreach, referred at-risk hypertensive individuals to clinical care, and offered community resources including self-management supports.



ASTHO MILLION HEARTS® LEARNING COLLABORATIVE

MILWAUKEE PILOT SITE

The YMCA–Metro Milwaukee is a neighborhood center serving ZIP codes 53205 and 53206. The majority of residents in these ZIP codes are African-American (86% and 94%), and approximately 45% live on a household income below the federal poverty level.⁷ In 53205, African-American residents' median household income is \$20,100, about \$7,000 less than the state average for African-American Wisconsin residents, and \$32,000 less than the overall state median.⁷ In Wisconsin, hypertension rates decrease with increasing income (figure 3). Additionally, age-adjusted data indicate that an estimated 46% of African-American, non-Hispanics in Wisconsin have hypertension, compared to 26% of white, non-Hispanics.³ Small area estimates for census tract-level high blood pressure indicate that these ZIP codes have elevated rates of hypertension compared to other areas of Milwaukee, and compared to Wisconsin overall.⁸

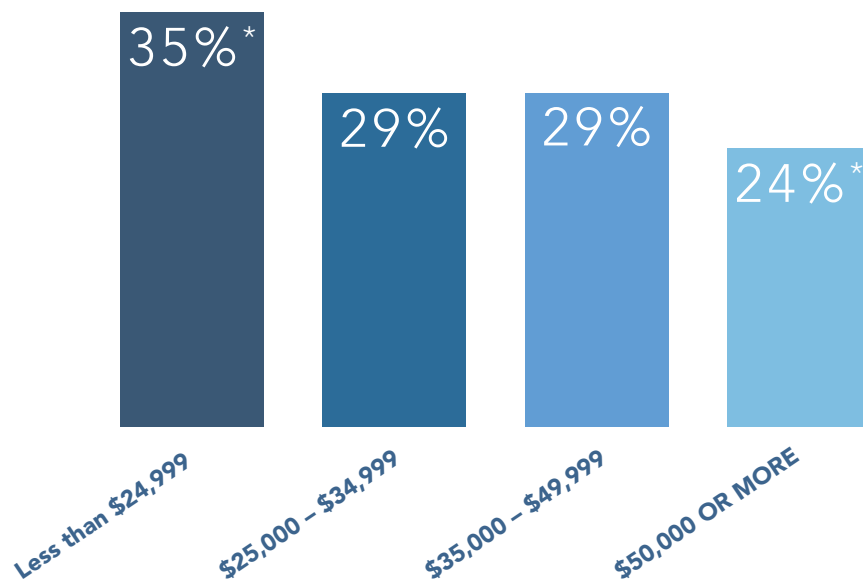


Figure 3. Age-adjusted hypertension prevalence by income in Wisconsin.³ “*” indicates a statistically significant difference between groups.

MILWAUKEE CONTINUED

COMMUNITY PARTNERS AND PROGRAMS

The YMCA, along with its partners, the Milwaukee Department of Health, the Black Nurses Association, Hayat Pharmacy, St. Ann Center for Intergenerational Care, Children's Hospital of Wisconsin, Froedtert and the Medical College of Wisconsin, and community health workers, implemented the American Heart Association's (AHA) "Check. Change. Control." (CCC) program, an evidence-based hypertension management program that utilizes blood pressure self-monitoring to empower individuals to take ownership of their cardiovascular health. The program also works to eliminate high blood pressure as a health disparity among Americans. Along with this program, partners also established bi-directional referrals between the YMCA and clinical partners for individuals identified with hypertension.

To recruit CCC YMCA program participants, partners offered community blood pressure screenings annually for two years at a community gospel concert, and also on a rolling basis for two months at the Milwaukee Department of Health Men's Health Services. Hayat Pharmacy also provided blood pressure screenings and medication assessments on site. Additionally, the St. Ann Center for Intergenerational Care

provided monthly educational programs to raise awareness of chronic diseases, risk factors, and benefits of making lifestyle changes with CCC participants and other community members.

For community members participating in blood pressure screenings, their experience through the referral process depended on the outcome of the screen, health insurance status, whether or not they had an existing primary provider, and their willingness to participate. Following screening, partners helped community members connect with their YMCA, community health workers, or clinics, depending on their need and preference. Community members participating in the CCC program tracked their blood pressure readings throughout the eight-week program.

The community responded in a positive fashion. Additionally, the support of local churches and dynamic communications between program participants expressing their personal needs to partner organizations greatly enhanced the program.

OUTCOMES

- Established bi-directional referrals between the YMCA, St. Ann Center for Intergenerational Care, and Milwaukee Department of Health Men's Health Services.
- In the CCC program, 57 community members tracked their blood pressure.
- In February 2017, the baseline average blood pressure was 135/88. By May 2017, the baseline average blood pressure decreased to 130/85. Evidence in academic literature indicates that a blood pressure reduction of 10 mm Hg systolic, or 5 mm Hg diastolic equates to a 22% reduction in coronary heart disease events, and a 41% reduction in stroke.⁹
- The St. Ann Center for Intergenerational Care and the Milwaukee Health Department Men's Program continue to make bi-directional referrals for those screened with hypertension despite the pilot grant cycle ending in August 2017.

WEST ALLIS

BACKGROUND

THE WEST ALLIS SITE HONED ITS FOCUS AROUND ACHIEVING HEALTH EQUITY FOR COMMUNITIES OF ALL ETHNIC BACKGROUNDS, WITH A SPECIFIC FOCUS ON IMPROVING BLOOD PRESSURE OUTCOMES FOR THE HISPANIC AND LATINO POPULATION—A GROWING PART OF ITS COMMUNITY.

Just in the last five years, the Hispanic and Latino population grew nearly 10%, and 6% of the city's population speaks Spanish, compared to 4% of the total Wisconsin population.⁷ Blood pressure rates for Hispanics in Wisconsin are significantly higher than non-Hispanic whites: 33% of Hispanic individuals report having diagnosed high blood pressure, compared to 26% of non-Hispanic whites (figure 5).

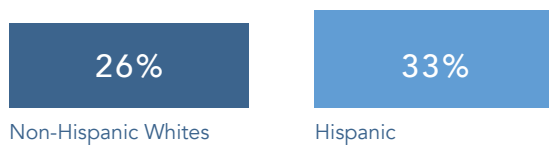


Figure 5. Age-adjusted hypertension prevalence in Wisconsin.³

COMMUNITY PARTNERS AND PROGRAMS

The city of West Allis Health Department (WAHD) worked collaboratively with the Sixteenth Street Community Health Center (CHC), a federally qualified health center, to improve health outcomes and health equity for the Hispanic and Latino population. Approximately 85% of Sixteenth Street CHC's patient population identifies as Hispanic, and about 70% are best served in a language other than English.¹⁰

Sixteenth Street CHC developed an electronic medical record (EMR) algorithm with guidance from the Centers for Disease Control and Prevention (CDC) to identify patients with undiagnosed or uncontrolled hypertension. The algorithm identified 84 undiagnosed patients with elevated blood pressure readings above 140/90, and no diagnosis of hypertension in the EMR. Additionally, approximately 1,200 individuals being served at Sixteenth Street CHC identify as Hispanic and have a hypertension diagnosis that is uncontrolled.

Follow-up protocols and workflows are in place for patients with hypertension with prompts in the EMR to guide care. Self-management plans now have a care focus that includes pill box assistance provided by nurses during medication visits. A check-out system for blood pressure cuffs is in process; 100 cuffs were purchased for each of two sites. Educators have patients sign an agreement to log their blood pressure readings and current activities, and allow staff to monitor and record their information into the EMR. Sixteenth Street CHC re-organized, creating a "Chronic Care" section that uses a population health approach to providing integrated health care services connecting well-being (emotional and behavioral health) and community health (social determinants).

CONTINUED WEST ALLIS

WE HAVE WORKED ON IMPROVING BLOOD PRESSURE FROM MANY ANGLES: WE MADE SURE THAT OUR EMPLOYEES ARE TAKING ACCURATE BLOOD PRESSURES, WE EDUCATED OUR CLIENTS ON THE CORRECT POSITIONING FOR BLOOD PRESSURE MEASUREMENT, AND WE HELPED OUR CLIENTS BECOME SELF-ADVOCATES TO MAKE SURE THEIR MEDICAL PROVIDERS ARE TAKING THEIR BLOOD PRESSURE ACCURATELY.

— CAROLYN HAAS, RN
WEST ALLIS HEALTH DEPARTMENT, PUBLIC HEALTH NURSE

A community blood pressure screening was also held at a local Spanish health fair, where, similar to the Milwaukee pilot site, the community member experience through the referral process depended on their blood pressure reading, health insurance status, and whether or not they had an existing primary care provider.

After identifying individuals, WAHD and Sixteenth Street CHC developed and tested protocols for screening and referral that are customized for the Hispanic and Latino community and individuals best served in Spanish. Having accessible, translated resources and Spanish-speaking promotoras de salud (community health workers) increased community access and health care referrals.

Promotoras received American Heart Association training to take accurate blood

pressure measurement, and were also trained in motivational interviewing. Additionally, they received portable blood pressure kits to provide increased community blood pressure screenings.

The WAHD and the Sixteenth Street CHC continue to improve communication, collaboration, and referral linkages using plan-do-study-act cycles. Promotoras are working jointly within the Latino community to provide and promote blood pressure screenings, referrals, and education. They now have improved skills and approaches for finding and working with persons with hypertension. Sixteenth Street CHC and the WAHD are committed to providing staff with direction and working collaboratively to improve hypertension and cardiovascular outcomes in their community.

OUTCOMES

- Established bi-directional referrals between the WAHD and Sixteenth Street CHC
- 1,200+ Hispanic patients with uncontrolled hypertension identified
- 275 screened at Sixteenth Street CHC and referred to services

BACKGROUND

GREEN COUNTY



GREEN COUNTY HEALTH DEPARTMENT WAS SELECTED AS A RURAL SITE FOR THE ASTHO MILLION HEARTS® LEARNING COLLABORATIVE

In Green County, 60% of residents live in a rural area.¹¹ By comparison, 30% of Wisconsin's overall population resides in a rural area.¹¹ The percent of Green County residents with diagnosed hypertension is slightly lower than in Wisconsin overall (figure 5), but, as a rural county, they face unique challenges and disparities in hypertension-related outcomes.

The CDC demonstrated that Americans living in rural areas are more likely to die from heart disease, a health outcome related to hypertension, than their urban counterparts.¹² Part of the disparity observed between rural and urban heart disease mortality may be related to access to health care and other health services.¹² For example, according to The Robert Wood Johnson Foundation's County Health Rankings and Roadmaps, 81% of Wisconsin's population has access to exercise opportunities, while in Green County, only 62% do.¹¹

COMMUNITY PARTNERS AND PROGRAMS

Green County Health Department (GCHD) and Monroe Clinic addressed hypertension challenges in a rural setting by providing blood pressure

screening to individuals in community settings, and implementing a referral system between community and clinical services. Green County and Monroe Clinic have a shared, established history working together on the GCHD health assessment and improvement plan, and leveraged existing connections to focus on hypertension identification and referral.

GCHD became the first Wisconsin local health department to digitally connect to a clinic using EpicCare Link, which provides a bi-directional pathway for patient information (blood pressure readings) acquired during community screenings to be sent to the Monroe Clinic community triage team. Through this connection, GCHD can immediately refer individuals with high blood pressure readings to providers at Monroe Clinic for services. Additionally, GCHD promoted its [Family Services Community Resource Guide](#) to assist its residents in locating and navigating both community and clinical services specific to hypertension.

BACKGROUND CONTINUED

GREEN COUNTY

Aside from establishing a referral system, community partners undertook additional activities to improve hypertension identification and control within their own organizations:

Green County Health Department

Revised policies, protocols, and procedures for accurate blood pressure screening and counseling, including follow-up recommendations, risk factors, and lifestyle changes.

Monroe Clinic

- Engaged parish nursing staff in refresher training on how to take accurate blood pressure measurement. Staff also received additional training in motivational interviewing techniques, and how to apply these approaches to hypertension referrals, follow-up services, and in the delivery of community services.
- Utilized the [Million Hearts® Prevalence Estimator Tool](#) to identify patients with hypertension and assess clinical performance. The tool estimated Monroe Clinic cares for 37,600+ patients with hypertension. Based on the count of currently identified clinical cases, Monroe Clinic is performing above the 75th percentile in Wisconsin.

- Began a hypertension initiative to improve blood pressure control for diagnosed patients and measurement accuracy.



GREEN COUNTY
PARTNERS

Wisconsin Community Health Fund,
Green County Health Department,
Monroe Clinic and Parish Nurses Staff

One final partner to recognize in this site's success is the [Wisconsin Community Health Fund \(WCHF\)](#). Together, WCHF and GCHD strengthened the [Green County Healthy Community Coalition](#) (an existing coalition of over 50 organizations co-chaired by representatives from Monroe Clinic and GCHD) by developing a [community care agreement](#). Under this agreement, the Green County Healthy Community Coalition developed a [hypertension community-clinical protocol](#) that is being shared with every service provider that offers blood pressure screening in Green County.

OUTCOMES

STRONG, BI-DIRECTIONAL REFERRALS BETWEEN GREEN COUNTY HEALTH DEPARTMENT AND MONROE CLINIC

Green County Health Department

- Revised policies and procedures
- Applied motivational interviewing approaches for high blood pressure referral and follow-up

Monroe Clinic

- Of patients identified with hypertension, 84% are experiencing control, a 7% increase, or 500+ person increase, from the previous year.

HOW TO GET STARTED

COMMUNITY-CLINICAL PARTNERSHIPS

01

IDENTIFY CROSS-SECTORIAL PARTNERS

Local health departments can begin by identifying community leaders and partners willing to work together to improve hypertension outcomes. Effective hypertension improvement often requires a paradigm shift from thinking in silos within organizations, to a community-wide perspective. Operative partners come from all sectors: senior centers, businesses, education, fire departments, emergency medical services, food pantries, faith communities, health systems and clinics, and others. Each partner offers unique contributions based on their community role, the populations they serve, funding, and specific resources. This toolkit also encourages community leaders to intentionally engage and recruit individuals from populations experiencing health inequities, with the goal of increasing the capacity and influence of these populations to improve their health outcomes.

02

USE COMMUNITY HEALTH ASSESSMENTS AND COMMUNITY HEALTH IMPROVEMENT PLANS TO IMPROVE HYPERTENSION OUTCOMES

The **community health assessment (CHA)** is a collaborative process conducted by a local health department and hospitals in partnership with other community partners. It describes the health status of the population, identifies areas for health improvement, determines factors that contribute to health concerns, and identifies resources that can be mobilized to address population health improvement. The ultimate goal of a CHA is to develop strategies to address the community's health needs using a compilation of health information collected from numerous sources. CHAs lay the groundwork for an ongoing collaborative and comprehensive approach to improve the health of county residents. These assessments often include data and information on chronic diseases, such as hypertension and heart disease.

A **community health improvement plan (CHIP)** is a long-term, systematic effort to address public health problems based on the results of a community health assessment. The purpose of the CHIP is to describe how a health department and the community it serves will work together to improve the health of the population.

Some communities in Wisconsin already include chronic diseases and, more specifically, hypertension as priority area in their CHAs and CHIPs. The University of Wisconsin Population Health Institute has compiled community health needs assessments and community health improvement plans from hospitals and health departments across the state. For more information, please visit [Assessing and Improving Community Health in Wisconsin](#).

03

SET COMMUNITY HYPERTENSION IMPROVEMENT GOALS AND OBJECTIVES

Community-clinical linkages are mutually beneficial when the mission, goals, objectives, and activities are jointly determined and systematically communicated to stakeholders at all levels. The [CDC's Community-Clinical Linkages for the Prevention and Control of Chronic Diseases Practitioner's Guide](#) provides guidance on key considerations and strategies for identifying shared goals and objectives. Below are examples of Wisconsin goals and objectives specific to hypertension and heart disease outcomes:

Goal Examples

- *Prevent the development of hypertension, heart disease, and stroke risk factors in Wisconsin communities.*
- *Improve the detection and treatment of hypertension, heart disease, and stroke risk factors.*
- *Promote early identification and treatment of hypertension, heart disease, and stroke.*
- *Encourage statewide partners to develop and take action on policies and promotion of programs to improve hypertension, heart disease outcomes, and stroke prevention and treatment.*

Objective Examples

- *Increase the number of adults who become aware of the risks of high blood pressure through health system, community-based, or worksite education programs.*
- *Increase the number of bi-directional adult referrals for those screened with high blood pressure in community settings by public health or others and referred to health care.*
- *Increase the number of evidence-based approaches and programs for patients with hypertension in making lifestyle changes.*

TIP

Green County's work around hypertension and hypertension-related outcomes (described earlier in this toolkit) leveraged an existing relationship that many local health departments are familiar with: conducting CHIPs and CHAs jointly with area hospitals. Because of CHIPs and CHAs, there was already a strong relationship between Monroe Clinic, the Wisconsin Community Health Fund, and the Green County Healthy Community Coalition, which has representatives from the Green County Health Department and Monroe Clinic. Together, these partners leveraged existing partnerships to address hypertension in their community.

OVERARCHING STRATEGIES



The following overarching strategies were utilized by the three ASTHO Wisconsin Initiative pilot sites working toward improved hypertension diagnosis and control. Wisconsin local health departments are encouraged to adopt and apply these when working with local health systems and other partners to expand their reach and impact on communities.

COMMUNITY-CLINICAL LINKAGES

One important goal of a community-clinical partnership is to establish a bi-directional referral system for hypertension that operates between partners. For example, clinics can refer patients to community-based activities (American Heart Association programs, blood pressure screenings or local weight-loss programs). Conversely, community partners that identify individuals in need of medical hypertension management will use the same referral system to guide people to clinical health care access and public health resources.

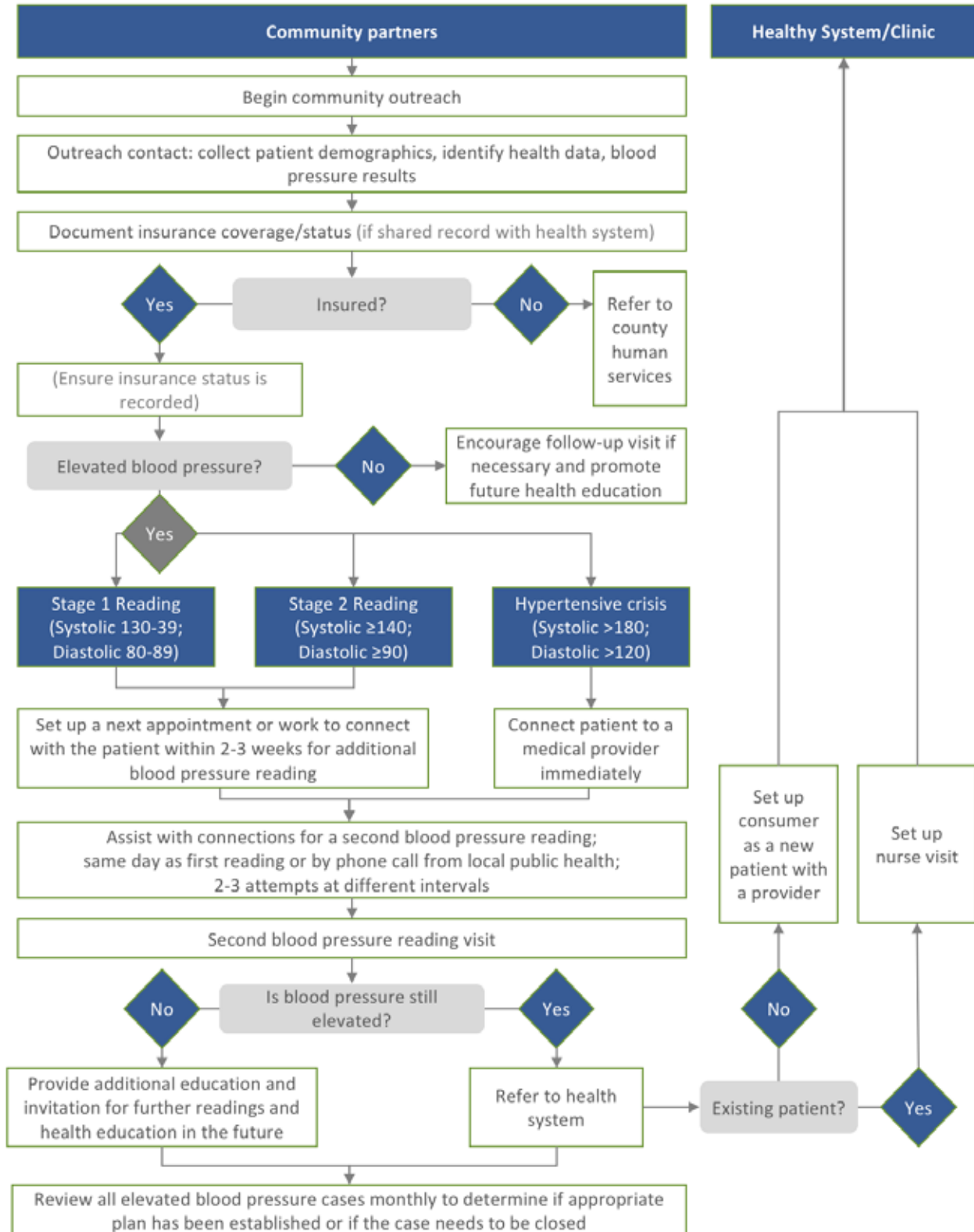
The Milwaukee pilot site (described earlier in this toolkit) is a great example of bi-directional referrals between community screening programs, community programs like the American Heart Association's "Check. Change. Control." and clinical partners at the St. Ann Center for Intergenerational Care.

Community-clinical linkages play a critical role in improving hypertension identification, management, and control. Collaborations may exist between any combination of community-based organizations, health care organizations, pharmacies, or traditional public health. These efforts work well when they are solidified with a formal bi-directional referral process, particularly using EMR when possible.

In Green County, the local health department worked with Monroe Clinic to establish the first EpicCare Link connection to create a digital, bi-directional referral system. The figure on the next page is a template from their work that outlines the flow between community partner outreach and clinic referral that can be tailored for local use.

BI-DIRECTIONAL REFERRAL WORK FLOW

The figure below is a template outlining the flow between community partner outreach and clinic referral that can be tailored for local use.



ACCURATE BLOOD PRESSURE MEASUREMENT

IMPORTANT TO IMPROVING DETECTION AND CONTROL OF HYPERTENSION



To most, identifying individuals with hypertension through blood pressure screenings does not sound like a difficult task. However, a variety of factors can result in inaccurate blood pressure measurements, which may result in patients being misdiagnosed. It is imperative that blood pressure measurements be done accurately, using proper technique. Proper technique can be informed by common problems that account for inaccurate blood pressure measurement.

WHEN A PATIENT HAS...	BLOOD PRESSURE CAN APPEAR HIGHER BY... ^{13, 14}
Cuff over clothing	10–40 mm Hg
A full bladder	10–15 mm Hg
A conversation or is talking	10–15 mm Hg
Unsupported arm	10 mm Hg
Unsupported back	5–10 mm Hg
Unsupported feet	5–10 mm Hg
Crossed legs	2–8 mm Hg

7 SIMPLE TIPS

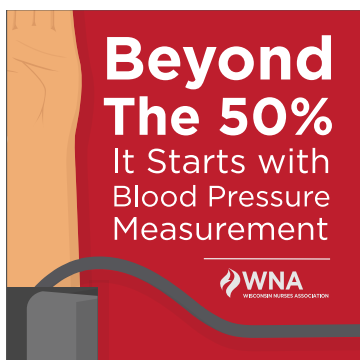
TO ENSURE AN ACCURATE BLOOD PRESSURE MEASUREMENT

BY THE AMERICAN MEDICAL ASSOCIATION (AMA)¹⁵

1. Use the correct cuff size.
2. An unsupported back can increase a measurement by 5 to 10 mm Hg. That same range applies to feet left dangling from an exam table or a high chair.
3. Seat the client in a chair with a back with feet flat on the floor; crossing legs may add an extra 2 to 8 mm Hg.
4. Always put the cuff over a bare arm, rather than clothing, which can add 10 to 40 mm Hg to a measurement.
5. Make sure the patient has an empty bladder—a full bladder can tack on 10 to 15 mm Hg.
6. Avoid talking or having a conversation; this can add an additional 10 to 15 mm Hg.
7. Support the arm at heart level on a flat surface—otherwise this can add 10 mm Hg.



For the infographic PDF, visit http://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_493556.pdf



The Wisconsin Nurses Association offers an online self-study program introducing accurate blood pressure measurement. The course, called [Beyond the 50%: It Starts with Accurate Blood pressure Measurement 2.0](#), is free, and offers continuing education credits. Additionally, MetaStar, a quality improvement organization, developed an e-learning module to assist health professionals who take blood pressure measurements for adult patients in ambulatory or community-based settings: [Taking an Accurate Blood Pressure Reading—Outpatient Adults](#).

ACCURATE BLOOD PRESSURE MEASUREMENT

SELF-MANAGEMENT OF BLOOD PRESSURE WITH CLINICAL SUPPORT



Self-measured blood pressure monitoring (SMBP) is the regular measurement of blood pressure by patients outside the clinical setting.¹⁶ There is strong scientific evidence that SMBP with clinical support helps people with hypertension lower their blood pressure.¹⁶

Self-management support should occur before, during, and after a health care appointment, and may include instructing clients on how to measure their blood pressure with a home device, helping individuals with medication access and management, role management (leading their own care), and emotional management of their

hypertension. Services should consider patients' perspectives and be tailored to their needs.

Resources for public health professionals and clinicians are available. For Million Hearts® featured tools, please visit their [Self-Measured Blood Pressure Monitoring](#) tools and protocols page.

For health professionals in an ambulatory or community-based setting that teach adult patients to self-measure their blood pressure, MetaStar and the Pharmacy Society of Wisconsin developed an e-learning module: [Patient Self-Measurement of Blood Pressure](#).

COMMUNICATION

MOTIVATIONAL INTERVIEWING



Motivational interviewing (MI) is a methodology for structuring conversations and being present in a way that supports a client's willingness and ability to change. MI has been shown to improve retention, adherence, and outcomes across a range of patient behaviors, including blood pressure control.

Clinicians who are trained in MI acquire skills in active listening, with the goal of having the client hear someone else talk about their own reasons for making changes. Conversations

with the client emphasize relationship building, empathy, and acceptance. A way to discover what motivates someone is to find out what they value. The MI perspective prescribes to the following:

- People are competent.
- People have the self-knowledge, attitudes, and capabilities that can affect change.
- The clinician's role is to be present with the client in a way that supports change.

COMMUNICATION

TEACH-BACK

An estimated 40%–80% of the information patients are told during health care visits is forgotten immediately, and nearly half of the information retained is incorrect.¹⁷ The teach-back method, also known as the show-me method, helps ensure that patients understand the information they receive by asking patients to state in their own words the instructions or information they were given regarding their health. The main elements of the teach-back method include the following:

(Keep in mind this is not a test of the patient's knowledge. It is a test of how well concepts were explained.)

- **Plan approaches.** Think about how to ask patients to teach-back the information. For example say: "We covered a lot today and I want to make sure that I explained things clearly. So let's review what was discussed. Please describe three things you agreed to do to help control your hypertension."
- **"Chunk and Check."** Don't wait until the end of the visit to initiate teach-back. Chunk out information into small segments and have the patient teach it back. Repeat several times during a visit.
- **Clarify and check again.** If teach-back uncovers a misunderstanding, explain things again using a different approach. Ask patients to teach-back again until they are able to correctly describe the information in their own words. If they parrot your spoken words, they may not have understood the information.
- **Start slowly and use consistently.** Initially try teach-back with the last patient of the day. Once comfortable with the technique, use teach-back with everyone, every time!
- **Practice.** It takes a little time and then becomes part of a routine; teach-back can be done without awkwardness and does not lengthen a visit.
- **Use the show-me method.** When prescribing new medicines or changing a dose, research shows that even when patients correctly say when and how much medicine they'll take, many will make mistakes when asked to demonstrate the dose. For example say: "I've noticed that many people have trouble remembering how to take their blood thinner. Can you show me how you are going to take it?"
- **Use handouts along with teach-back.** Write down key information to help patients remember instructions at home. Review written materials to reinforce patients' understanding. Encourage patients to refer to handouts when using teach-back, and engage them to use their own words and not read the material back verbatim. Refer to Tool 5 of the [AHRO Health Literacy Universal Precautions Toolkit](#) for more information on the teach-back method.

TIP

Promotoras at the West Allis pilot site (described earlier in this toolkit) were trained in both accurate blood pressure measurement methods and motivational interviewing techniques in preparation for community screenings.

TEAM-BASED CARE APPROACH FOR HYPERTENSION

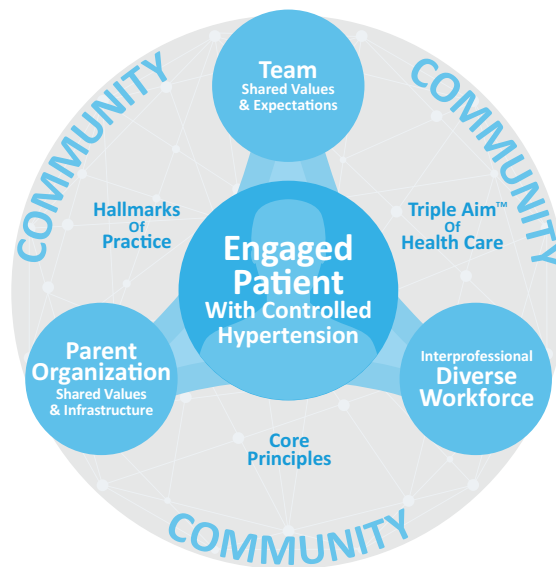
Team-based care is an evidence-based approach incorporating an inter-disciplinary team to deliver services to improve blood pressure control, hypertension identification, and hypertension management. The [Community Guide on Cardiovascular Disease](#), created by the Community Preventive Services Task Force, recommends team-based care for hypertension. Team-based care demonstrates strong evidence in improving blood pressure control. Teams may consist of the patient and their family, primary care providers, nurses, pharmacists, dietitians, dentists, social workers, and community health workers. Team-based care approaches incorporate interventions to support medication management, self-management of blood pressure, care coordination, adherence, and patient follow-up services. Many states, including Wisconsin, are working to build linkages between health systems, public health departments, providers, clinicians, pharmacists, care coordinators, businesses, faith communities, and other local organizations in creating a comprehensive community-clinical team-based system of care for hypertension management.

The Wisconsin Nurses Association (WNA), in collaboration with other Wisconsin partners, developed the patient-centered team-based care conceptual model to foster health care redesign. This model emphasizes the importance of interprofessional approaches by teams and health systems to move toward value-based care, improved patient health and safety, and improved population health.

WNA has identified five core principles for patient-centered team-based care. These core principles guide action, behavior, and performance of the team and health system, and they identify workforce elements that are

foundational to patient-centered team-based care. These core principles include the following:

- Shared goals
- Clear roles
- Mutual trust
- Effective communication
- Measurable processes and outcomes



For more information, please see WNA's [Patient-Centered Team-Based Care in Wisconsin: A Working Conceptual Model](#).

Moreover, WNA's interprofessional clinical hypertension expert panel emphasizes the importance of team-based care in its recently released "[Recommendations for Hypertension Management in Wisconsin](#)." Among many other team-based care-related recommendations, the expert panel endorses establishing a culture of patient-centered team-based care for hypertension, prevention, detection, and control.

DETECTION: “HIDING IN PLAIN SIGHT”

An estimated 612,000 Wisconsin adults have uncontrolled hypertension, and 16% percent (97,000) are unaware they even have it.¹⁸ Many patients with undiagnosed and uncontrolled hypertension can be described as “hiding in plain sight.” National estimates indicate that the majority of “hiding in plain sight” patients report having regular access to health care and health insurance and having an ongoing source of care, and over 60% have received care two or more times in the last year.¹⁸ [The Million Hearts® Hypertension Prevalence Estimator](#) allows practices and health care systems to estimate their expected hypertension prevalence among their patient population. Using this information, practices can estimate how many patients in their clinical purview may be “hiding in plain sight.”

FINDING THOSE “HIDING IN PLAIN SIGHT”

The Wisconsin Division of Public Health encourages local health departments and health systems to work together to query data through electronic health records (EHR) to find those “hiding in plain sight.” The CDC recommends following four critical steps in this process:

- 01 **Establish clinical criteria for potential undiagnosed hypertension using current evidence-based guidance.** Work with your health care team to determine the number of elevated blood pressure readings and the degree of elevation that should trigger a red flag for a patient.
- 02 **Search electronic health record (EHR) data for patients who meet your established clinical criteria.** For example, some providers have searched EHR registries using algorithms to extract relevant information. Pick the approach that works best for your practice based on your available resources.
- 03 **Implement a plan to communicate with these patients and to treat those with hypertension.** The plan could include 24-hour ambulatory or home blood pressure monitoring, automated office blood pressure readings, or repeated in-office measurement. For patients with confirmed hypertension, follow standardized treatment protocols and provide feedback to your care team about how best to support patients in achieving and maintaining blood pressure control.
- 04 **Calculate the hypertension prevalence in your practice and compare your data against local, state, or national prevalence data.** Comparing the prevalence of hypertension among your patients to national or local values could add much-needed context to blood pressure control rates and may help identify more patients who might benefit from additional clinical action.

“HIDING IN PLAIN SIGHT” ACHIEVEMENTS

The Sixteenth Street Community Health Center in West Allis implemented an algorithm that within one year uncovered over 80 patients “hiding in plain sight” and referred them for follow-up treatment.

The Wisconsin Collaborative for Healthcare Quality (WCHQ), a consortium of health systems and clinics, represents 60% of the provider network in Wisconsin. WCHQ ran queries among its 37 member organizations to uncover nearly 167,129 individuals, or 21% of all hypertensive patients, with undiagnosed hypertension.

HEALTH EQUITY FRAMEWORK: ASSESS AND INCORPORATE SOCIAL DETERMINANTS OF HEALTH

The identification of target populations at the three ASTHO Wisconsin Initiative pilot sites in Green County, West Allis, and Milwaukee was informed by investigation and analysis of social determinants of health. The World Health Organization defines social determinants of health (SDoH) as “the circumstances in which people are born, grow, live, work, and age, and the systems put in place to deal with illness.”¹⁹ This definition emphasizes that illness and health are not distributed randomly throughout society. Instead, illness and health cluster at the intersections of social, economic, environmental, and interpersonal forces. Examples of SDoH include socioeconomic position, social support, education, access to medical care, and residential environments.

The CDC states that addressing these determinants is a primary approach to achieving health equity.²⁰ Health equity is achieved when every person has the opportunity to “attain their full health potential” and no one is “disadvantaged from achieving this potential because of social position or other socially determined circumstances.”²⁰ Healthiest Wisconsin 2020 acknowledges that not all “communities in

Wisconsin are as safe or as healthy as they could be,” and that to be the healthiest state, “Wisconsin must address these persistent disparities in health outcomes, and the social, economic, educational and environmental inequities that contribute to them.”²¹

This toolkit encourages users to investigate SDoH through data localized to their communities, and incorporate findings into their decision-making. The [CDC's SDoH resource](#) page provides links to sources of data at the county and sub-county level, and also references tools for putting this data into action. The [U.S. Census Bureau's American FactFinder](#) tool provides access to reliable data on people, housing, businesses, and industries at varying geographic levels. Finally, the Bay Area Regional Health Inequities Initiative's [Applying Social Determinants of Health Indicator Data for Advancing Health Equity Guide](#) aims to show local health department epidemiologists, data analysts, and other professionals how to collect, analyze, and display a prioritized list of SDoH living condition indicators, and frame these data in the context of neighborhood mortality, morbidity, and social conditions.

ADDITIONAL THOUGHTS

LOCAL HEALTH DEPARTMENTS

Health is influenced by a range of interconnected factors such as individual health behaviors, social characteristics, and the physical environment. Local health departments can play a significant role in improving hypertension and cardiovascular health outcomes in their communities. The health department, along with multi-sectorial collaborative partners, can address the broader influences of health to promote cardiovascular health, eliminate health disparities, and promote health equity among all individuals for improved health outcomes in their communities. Community teams can use this toolkit to begin their efforts.

ACCREDITATION GOALS

For local health departments working toward public health department accreditation, the efforts described in this toolkit may help demonstrate conformity with the Public Health Accreditation Board's (PHAB) Standards and Measures. To learn more, visit the [PHAB website](#).

SUCCESS STORIES

Individuals and teams throughout Wisconsin shared stories of how their work helped lower blood pressure in the [Heart to Heart Success Stories: Achievements, Outcomes and Lessons Learned](#) document. Stories came from clinicians, students, teams, clinics, health organizations, churches, pharmacies, and workplaces.

APPENDIX A

WISCONSIN AGE-ADJUSTED HYPERTENSION PREVALENCE RATES BY COUNTY

COUNTY	% HYPERTENSIVE
ADAMS	30.1%
ASHLAND	20.8%
BARRON	26.8%
BAYFIELD	24.7%
BROWN	29.1%
BUFFALO	20.1%
BURNETT	31.4%
CALUMET	30.9%
CHIPPEWA	20.4%
CLARK	28.9%
COLUMBIA	25.8%
CRAWFORD	29.8%
DANE	21.9%
DODGE	29.4%
DOOR	24.6%
DOUGLAS	27.9%
DUNN	26.5%
EAU CLAIRE	23.6%
FLORENCE	28.4%
FOND DU LAC	23.3%
FOREST	27.3%
GRANT	28.0%
GREEN	27.6%
GREEN LAKE	33.3%
IOWA	29.1%
IRON	28.4%
JACKSON	43.1%
JEFFERSON	29.2%
JUNEAU	27.9%
KENOSHA	23.8%
KEWAUNEE	22.4%
LA CROSSE	34.7%
LAFAYETTE	24.9%
LANGLADE	25.0%
LINCOLN	33.3%
MANITOWOC	32.1%

COUNTY	% HYPERTENSIVE
MARATHON	28.0%
MARINETTE	27.7%
MARQUETTE	31.6%
MENOMINEE	26.5%
MILWAUKEE	33.2%
MONROE	33.9%
OCONTO	31.9%
ONEIDA	29.8%
OUTAGAMIE	22.9%
OZAUKEE	18.3%
PEPIN	29.3%
PIERCE	34.2%
POLK	23.7%
PORTAGE	26.0%
PRICE	30.6%
RACINE	29.0%
RICHLAND	26.8%
ROCK	27.2%
RUSK	23.5%
ST. CROIX	28.8%
SAUK	23.4%
SAWYER	32.8%
SHAWANO	27.9%
SHEBOYGAN	26.2%
TAYLOR	29.2%
TREMPEALEAU	24.3%
VERNON	25.6%
VILAS	31.3%
WALWORTH	28.2%
WASHBURN	33.4%
WASHINGTON	21.5%
WAUKESHA	25.2%
WAUPACA	24.3%
WAUSHARA	29.6%
WINNEBAGO	23.3%
WOOD	22.1%

APPENDIX B

“

The city of Milwaukee Health Department's Men's Health Section supports using this toolkit to reduce the cases of hypertension, and improve cardiovascular health outcomes. The downloadable materials provide accurate information to educate both the provider and patient. We appreciate this adaptable resource, as it allows agencies to design materials that are appropriate for their local communities.

— Darryl Davidson, Section Manager
City of Milwaukee Health Department's Men's Health

“

Normal blood pressure is essential to life. The Set Your Heart on Health toolkit contains an array of tools to inform, screen, diagnose and monitor this incredibly important vital sign. Linking community awareness and screening to clinical services with follow-up helps people avoid preventable causes of death, heart disease and stroke. Community health centers and local health departments can work together to provide early detection of elevated blood pressure, as well as self-management education. Together, we can make sure vulnerable communities are screened and educated in settings and languages that support them.

— Holly Nannis, RN, Director of Community Health Advancement
Sixteenth Street Community Health Centers

“

We are excited for the rest of Wisconsin to hear about our success tackling hypertension in Green County. You don't have to recreate the wheel; there are so many excellent materials available for local health departments, and this toolkit is a great place to start!

— RoAnn Warden, RN, BSN
Green County Health Department Director

“

We refocused our perspective on the importance of blood pressure screenings, and embedded them into existing programs. We worked to standardize protocols and use evidence-based practices, which we are happy to share with other local health departments in this toolkit!

— Yvonne Duemke, RN, Assistant Director
West Allis Health Department

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ADDITIONAL RESOURCES

NATIONAL RESOURCES

Million Hearts® Action Guides

[Series for Clinicians, Public Health Practitioners, and Employers: Hypertension Control: Change Package for Clinicians](#)

American Heart Association (AHA)

[AHA Website](#)

American Medical Association (AMA) Johns Hopkins Medicine

[Engaging Patients in Self-measurement \(Blood Pressure Monitoring Program\)](#)

American Medical Group Foundation

[Provider Toolkit to Improve Hypertension Control: Measure Up, Pressure Down](#)

Association of State and Territorial Health Officials (ASTHO)

[ASTHO Website](#)

Institute for Healthcare Improvement (IHI)

[Partnering in Self-Management Support: A Toolkit for Clinicians](#)

STATE RESOURCES

Blood Pressure Connect Health

[A Specialty Staff Protocol to Improve Follow-up after High Blood Pressures](#)

County Health Rankings and Roadmaps

[Action Center with Partner Guides](#)

New Hampshire Million Hearts® Learning Collaborative

[Ten Steps for Improving Blood Pressure Control in New Hampshire: A Practical Guide for Clinicians and Community Partners](#)

University of Wisconsin School of Medicine and Public Health

[MyHEART: Information & Resources for Young Adults with Hypertension](#)

Vermont Department of Health

[From 70 to 80 Percent: The Hypertension Management Toolkit \(v.1.0 PDF 06/17\)](#)

Washington State Department of Health

[Improving the Screening, Prevention, and Management of Hypertension: An Implementation Tool for Clinic Practice Teams](#)

Wisconsin Chronic Disease Prevention Program

[Heart Disease Website and Resources](#)

Wisconsin Collaborative for Healthcare Quality (WCHQ)

[Toolkit for Improving Hypertension Care and Outcomes](#)

For more information about this toolkit or questions, contact:

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**WISCONSIN DEPARTMENT
of HEALTH SERVICES**

www.dhs.wisconsin.gov/disease/chronic-disease.htm

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