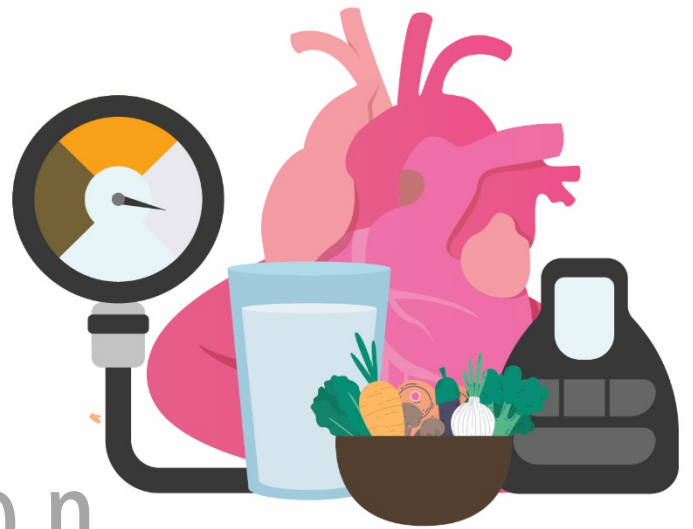




OUTCOMES-DRIVEN  
EXPERIENCED  
INNOVATIVE

# The Role of **CHWs** in Addressing Hypertension

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# About MHP Salud

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MHP Salud is a national nonprofit organization with 35 years of experience developing, implementing, and evaluating community-based, culturally tailored Community Health Worker (CHW) programs and promoting the CHW model through training and consultation services. MHP Salud’s mission is to implement CHW programs to empower underserved Latino communities and promote the CHW model nationally as a culturally appropriate strategy to improve health.

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# Introduction

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About 108 million American adults (1 in every 2) have hypertension. Hypertension, also known as high blood pressure, increases the risk for heart disease and stroke, two leading causes of death for people in the United States.<sup>1</sup>

Uncontrolled high blood pressure can lead to detrimental health conditions such as heart failure, heart attack, stroke, and chronic kidney disease.<sup>2</sup> The risk of developing these conditions increases if high blood pressure is left untreated. High blood pressure is a major risk factor for developing heart disease<sup>2</sup>, which is currently the leading cause of death in the United States.<sup>3</sup> According to the Center for Disease Control and Prevention (CDC), about 1 in every 4 deaths in the United States each year is due to heart disease.<sup>4</sup> CHWs are uniquely qualified to support individuals with hypertension; CHW interventions are known to improve health outcomes among individuals diagnosed with hypertension and support at-risk individuals to prevent the development of the condition.

The purpose of this guide is to assist health centers and partners in identifying the roles of CHWs in addressing hypertension. This guide will outline the function of the CHW and to identify the role CHWs hold in addressing hypertension self-management and prevention in their communities.

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# Who are CHWs?

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Community Health Workers (CHWs), also known as *Promotores(as) de Salud*, are frontline public health workers who are trusted liaisons between the individual and health care and social services. CHWs can serve as intermediaries between health services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.<sup>1</sup> Due to their close understanding of and trust from the communities they serve, CHWs can be particularly successful champions for patients with hypertension and/or at risk of developing heart disease; helping them overcome the challenges they may face in managing their blood pressure.

CHWs are known by a variety of titles. Please refer to the list below to identify staff performing duties that may align with the CHW profession:

- Community Health Specialist
- Community/Lay Health Advisor
- Community Outreach Worker
- Community/Patient Health Navigator
- Community Wellness Advocate
- Family Resources Coordinator
- Health Ambassador
- Health (or Community Health) Advocate
- Health Educator
- Healthcare Specialist
- Home Visitor
- Outreach and Enrollment Specialist
- Outreach Referral Worker
- Parent Educator
- Patient Care Coordinator/Worker
- Patient Resource Coordinator
- Peer Advocate
- Peer Educator
- Peer Wellness Specialist
- *Promotor(a) de Salud* <sup>2</sup>



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## What is Hypertension?

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Hypertension, also known as high or raised blood pressure, is a condition in which the blood vessels have persistently raised pressure. Blood is carried from the heart to all parts of the body in the vessels. Each time the heart beats, it pumps blood into the vessels. Blood pressure is created by the force of blood pushing against the walls of blood vessels (arteries) as it is pumped by the heart. The higher the pressure, the harder the heart must pump.<sup>1</sup> Blood pressure is recorded as two numbers, systolic blood pressure and diastolic blood pressure. Systolic blood pressure is the top or first number and it indicates how much pressure your blood is exerting against your artery walls when the heart beats. Diastolic blood pressure is the bottom or second number, and it indicates the amount of pressure your blood is exerting against your artery walls while the heart is resting between beats.<sup>2</sup>

There are five blood pressure ranges recognized by the American Heart Association: Normal, Elevated, Hypertension Stage 1, Hypertension Stage 2, and Hypertensive Crisis (Table 1).<sup>2</sup>

### **Normal Blood Pressure**

Blood pressure numbers of less than 120/80 mm Hg are considered within the normal range.

### **Elevated Blood Pressure**

Elevated blood pressure is when readings range from 120-129 systolic and less than 80 mm Hg diastolic.

### **Hypertension Stage 1**

Hypertension Stage 1 is when blood pressure ranges from 130-139 systolic or 80-89 mm Hg diastolic.

### **Hypertension Stage 2**

Hypertension Stage 2 is when blood pressure consistently ranges at 140/90 mm Hg or higher.

## Hypertensive Crisis

Hypertensive Crisis is when blood pressure is higher than 180/120 mm Hg and signs of possible organ damage such as chest pain, shortness of breath, back pain, numbness/weakness, change in vision, or difficulty speaking are present.

**Table 1**

	Systolic		Diastolic
<b>Normal</b>	<120 mm Hg	AND	<80 mm Hg
<b>Elevated</b>	120-129 mm Hg	AND	<80 mm Hg
<b>Hypertension Stage 1</b>	130-139 mm Hg	OR	≥ 80-89 mm Hg
<b>Hypertension Stage 2</b>	≥ 140 mm Hg	OR	≥ 90 mm Hg
<b>Hypertensive Crisis</b>	≥180 mm Hg	AND	≥120 mm Hg

As seen above, mm Hg is used as a measure to indicate blood pressure levels. The abbreviation mm Hg refers to millimeters of mercury. Mercury was used in the first accurate pressure gauges and since then it has been adopted as the standard unit of measurement for pressure.<sup>2</sup>

## What are the Symptoms of Hypertension?

High blood pressure is considered a largely symptomless “silent killer”. Therefore, most of the times individuals with high blood pressure do not experience any signs or symptoms. Therefore, the best way to identify high blood pressure is to monitor your levels periodically.<sup>3</sup> In the case of hypertensive crisis, headaches, nosebleeds, chest pain, shortness of breath, back pain, numbness/weakness, change of vision, or difficulty speaking may occur, and medical assistance should be sought immediately.<sup>2</sup>

## Recommendations for Hypertension Prevention and Management

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While hypertension can have serious health consequences, it can also be detected with routine blood pressure testing, controlled with lifestyle changes and, in some cases, medication.<sup>4</sup> About 1 out of 5 U.S. adults with hypertension are unaware of their condition.<sup>5</sup> This perhaps may be due to not visiting their health care provider regularly, failure to take medication as prescribed, not following a healthy lifestyle, lack of family and/or social support, or not understanding their diagnosis.

Mayo Clinic's Recommendations for Prevention and Management of Hypertension include:

- Visiting health care provider appointments diligently
- Adhering to prescribed medication and recommendations
- Exercising regularly
- Adopting a healthy diet
- Reducing sodium intake
- Limiting alcohol intake
- Avoiding tobacco use
- Reducing stress
- Monitoring blood pressure regularly
- Strengthening social support <sup>6</sup>

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(1) Hypertension. (n.d.). *World Health Organization*. <https://www.who.int/health-topics/hypertension/>

(2) "Understanding Blood Pressure Readings." *Www.heart.org*, <https://www.heart.org/en/health-topics/high-blood-pressure/understanding-blood-pressure-readings>.

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(6) "10 Drug-Free Ways to Control High Blood Pressure." *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 9 Jan. 2019, <https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/in-depth/high-blood-pressure/art-20046974>.

# CHW Roles in Addressing Hypertension

CHWs encompass a wide variety of specific roles and titles, and while their primary role may be linking vulnerable populations and the health care system, additional roles may include cultural mediation, culturally appropriate education, care coordination, case management, and systems navigation, coaching and social support, advocacy, capacity building, and outreach. Through these roles, CHWs offer support to patients with hypertension and/or at risk of developing heart disease in a culturally appropriate manner.

The table below (Table 2), provides an overview of the different CHW roles and sub-roles. Each role and sub-role are accompanied by real-life examples that may be used in hypertension interventions.

**Table 2**

CHW Roles	Sub-Roles	Examples/Relation to Hypertension
Cultural Mediation	<ul style="list-style-type: none"> <li>→ Navigating health and social service systems</li> <li>→ Addressing community and cultural norms</li> <li>→ Increasing health literacy and cross-cultural communication</li> </ul>	<ul style="list-style-type: none"> <li>→ Address community perspectives and/or misconceptions on hypertension medications.</li> <li>→ Explain how medical processes work in the U.S., such as medical appointments. Immigrant patients may be accustomed to walk-in medical services and may therefore miss their appointments.</li> </ul>
Culturally Appropriate Education	<ul style="list-style-type: none"> <li>→ Health promotion, disease prevention, and health condition management</li> </ul>	<ul style="list-style-type: none"> <li>→ Motivate and support healthy behavior change using culturally appropriate educational methods. For example, some cultures and religious groups cannot partake in dance, such as Zumba, as a form of physical activity while others might prefer it.</li> <li>→ Use a variety of educational methods to reach patients from various cultural backgrounds. For example, when CHWs work with patients to improve eating habits, they must be familiar with traditional cultural dishes and</li> </ul>



		healthy replacements their patients will actually use.
Care Coordination, Case Management, and Systems Navigation	<ul style="list-style-type: none"> <li>→ Making health referrals and providing follow-up</li> <li>→ Helping address barriers to services</li> </ul>	<ul style="list-style-type: none"> <li>→ Help patients schedule appointments and check insurance coverage.</li> <li>→ Provide assistance care coordination. For example, planning transportation to and from appointments, etc.</li> <li>→ Maintain constant communication with hypertensive patients to support in tracking health outcomes. For example, CHWs visiting the patient to monitor blood pressure regularly.</li> </ul>
Coaching and Social Support	<ul style="list-style-type: none"> <li>→ Motivating people to access healthcare</li> <li>→ Supporting behavior change</li> <li>→ Facilitating support groups and informal counseling</li> </ul>	<ul style="list-style-type: none"> <li>→ Help patients see their health as a priority. For example, in many cultures, women are the caregivers of others and not used to taking care of themselves.</li> <li>→ Helping patients advocate for themselves with health care providers when they disagree with treatment recommendations.</li> <li>→ Help patients set culturally appropriate SMART (specific, measurable, achievable, relevant, time-bound) health goals</li> <li>→ Provide social support and listen to patients' concerns. For example, oftentimes immigrants may feel socially isolated and CHWs can provide companionship and help motivate patients to manage hypertension.</li> </ul>
Non-Health Referrals	<ul style="list-style-type: none"> <li>→ Referring individuals to community support agencies</li> </ul>	<ul style="list-style-type: none"> <li>→ Provide domestic violence referrals. For example, if someone is in a violent relationship, they are less likely to focus on their heart health.</li> <li>→ Assist in completion of applications and other documents needed for referrals.</li> <li>→ Provide financial assistance referrals. For example, if someone is struggling to afford rent or their</li> </ul>

		<p>mortgage, they are unlikely to be able to pay for medical services, medicine, or healthy food.</p> <ul style="list-style-type: none"> <li>→ Refer patients to legal aid to receive assistance with legal matters. For example, if a patient is experiencing legal issues the stress caused could reflect on their health.</li> </ul>
Advocacy	<ul style="list-style-type: none"> <li>→ Identifying community needs and resources</li> <li>→ Advocating for individual clients and communities</li> </ul>	<ul style="list-style-type: none"> <li>→ Advocate for healthier options in their community. For example, petitioning for local supermarkets with healthy food options or adding lighting to local park to increase security.</li> <li>→ Attend medical appointments with patients. For example, accompanying patients to ensure that their doctor answers all their questions and explain medical terms in a culturally appropriate manner.</li> <li>→ Helping a patient advocate for themselves with health care providers if/when they disagree with a treatment recommendation.</li> </ul>
Building Capacity	<ul style="list-style-type: none"> <li>→ Building individual and community capacity</li> <li>→ Training with CHW peers and among networks</li> </ul>	<ul style="list-style-type: none"> <li>→ Encourage patients with hypertension to identify and use available resources to meet their needs and health goals. For example, showing patients how to locate and utilize information regarding local health events.</li> <li>→ Build patient's self-efficiency and self-efficacy. For example, teaching patients how to check and monitor their own blood pressure levels.</li> </ul>
Needs Assessments	<ul style="list-style-type: none"> <li>→ Conduct community needs assessments</li> <li>→ Conduct patient needs assessments</li> </ul>	<ul style="list-style-type: none"> <li>→ Conduct assessments to identify the needs of the community. For example, connecting with people living with hypertension and identifying their specific needs to develop effective programs and/or initiatives.</li> </ul>
Outreach	<ul style="list-style-type: none"> <li>→ Meet people/patients</li> </ul>	<ul style="list-style-type: none"> <li>→ Conduct community outreach. For example, establishing local</li> </ul>

	<p>where they are by building relationships based on listening, trust, and respect</p> <ul style="list-style-type: none"> <li>→ Establish and maintain relationships with community organizations to provide patients with access to social resources.</li> </ul>	<p>gathering spaces to encourage individuals to access health and social services.</p> <ul style="list-style-type: none"> <li>→ Recruit patients for health programs or interventions. For example, recruiting potential participants to participate in hypertension management educational sessions.</li> <li>→ Increase the visibility of a health center or CHW service within the community. For example, participating in community health fairs and local events.</li> </ul>
Evaluation	<ul style="list-style-type: none"> <li>→ Collect data</li> <li>→ Provide culturally appropriate insight to data interpretation</li> <li>→ Share results and findings with the community</li> </ul>	<ul style="list-style-type: none"> <li>→ Collect pre-post test data, conduct interviews, and other data about hypertension to demonstrate program effectiveness.</li> <li>→ Assist an organization or research team to better understand data trends. For example, CHWs may be aware of external factors affecting hypertension patients' participation in educational classes or programs.</li> </ul>

# CHW-Led Interventions Addressing Heart Health

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CHWs are often the bridge between the community and health and social services. The following section provides examples of how CHWs have been utilized in interventions addressing heart health:

- **Improvements in blood pressure management:** One of the most commonly reported positive health outcomes in CHW-led hypertension interventions is an improvement or maintenance of healthy blood pressure. Research shows that culturally specific CHW-led interventions are improving outcomes: programs tailored to Filipino immigrants, as well as African American and Hispanic populations have had significant positive effects on controlling blood pressure. <sup>1,2,3,4</sup>
- **Improved nutrition and weight management:** Studies show CHW-led interventions have demonstrated effectiveness in improving food-related behaviors, healthy eating habits, and weight management among participants. <sup>5,6,8,9</sup> Multiple studies illustrate that CHW interventions can lead to improvements in weight management measures including improvements in adult and child Body Mass Index (BMI), <sup>1,4,7</sup> (healthy weight loss, <sup>2,4</sup> and waist circumference.<sup>6</sup>
- **Lifestyle changes and medical behavior change:** Various studies show CHW-led hypertension interventions have a significant effect on encouraging healthy lifestyle changes such as reducing alcohol use significantly<sup>9</sup>; engaging in more physical activity <sup>6,7</sup>; and improving self-management behaviors including appointment keeping and adherence to anti-hypertensive medications.<sup>3,9</sup> CHW-led intervention participants in one study were also significantly more prepared to make lifestyle changes to improve their health.<sup>5</sup>
- **Higher self-efficacy:** Self-efficacy is the confidence an individual has in their ability to control their behaviors; it is very important for behavior change and to improve and manage hypertension. Multiple studies have indicated that CHW-led interventions increased participants' confidence in their ability to: prepare healthy foods <sup>5</sup>, improve their diet and weight management <sup>2</sup>, and control Cardiovascular Disease (CVD) risk factors.<sup>8</sup>
- **Increased knowledge:** Studies have demonstrated that CHW-led interventions are effective in increasing knowledge on hypertension prevention and management; including an increase in knowledge surrounding nutrition and weight management <sup>2</sup>, "heart healthy knowledge" <sup>5</sup>, and CVD risk factors among participants.<sup>8</sup>

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# The Value of CHWs in Hypertension Prevention and Control

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The following section demonstrates the value of CHWs in targeting cardiovascular health, including hypertension control and management. CHWs are an effective workforce addressing the “Quadruple Aim” of healthcare: improving the patient experience of care, improving health outcomes, reducing the overall cost of care, and improving clinical experience.<sup>1</sup> Their impact has been well-documented in scientific literature and shows positive health outcomes related to CHW-led hypertension interventions.

- **Return on Investment (ROI):** ROI analysis is a method in which a program’s economic impact is determined. CHW programs have shown substantial improvement on health outcomes, however data on financial outcomes is limited. Of the data available, some CHW programs addressing chronic conditions have shown a positive ROI over time. For example, a CHW program addressing individuals with cardiovascular risk factors in Baltimore indicated savings of \$388,000 in direct medical costs over 3 years for a financial ROI of \$2 for every \$1 invested.<sup>2</sup> Another CHW program at Health Partnership of Illinois had \$1.68 ROI for the combined impact of CHWs on diabetes and hypertension.<sup>4</sup>
- **Reducing Health Disparities:** It is well-documented that health disparities in heart health exist in the United States among racial and ethnic minority groups. Hispanic and African American populations are more likely to have uncontrolled high blood pressure if diagnosed with hypertension than White individuals.<sup>6</sup> CHWs are uniquely equipped to address these differences and tailor interventions for the specific target population. A 2018 study on a CHW-led intervention targeting low-income Hispanic immigrants, demonstrated that CHWs were able to motivate a substantial percentage of individuals to engage in heart health activities and adapt physical activities.<sup>5</sup>
- **Improved Patient Satisfaction:** CHWs are trusted members of the community who are regularly the point of contact for many individuals searching for information and resources. They have the opportunity to spend more time with patients and ensure that their concerns and needs are being addressed, which not only improves health outcomes but also the perceived quality of the care received. In a randomized control trial among patients in Philadelphia, a CHW intervention was associated with a significantly higher patient self-reported quality of care.<sup>3</sup> Furthermore at 6-and-9 month post-invention, patients spent fewer total days in the hospital and had lower odds of repeated hospitalizations.<sup>3</sup>

- **Improved Clinical Experience:** CHWs bring a skill-set and knowledge base to a health care team that is completely different from other team members. They offer a different perspective and new approaches as they search for solutions for their most complex and challenging cases. They are an integral part of the care team to improve patients' health outcomes and service delivery and quality of care.<sup>7</sup> The known CHW impact helps in promoting value, respect, and credibility; which contributes to the strengthening and expansion of the CHW workforce.<sup>8</sup>
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## Resources

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### **Understanding and Addressing Hypertension and Heart Health in Your Community: A Quick Guide for Community Health Workers**

*Understanding and Addressing Hypertension and Heart Health in Your Community: A Quick Guide for Community Health Workers* provides information surrounding hypertension and heart health. Inside you will find tools for CHWs to use to guide patients with hypertension towards a healthier future. The guide also comes with a blood pressure tracker, which can be shared with patients as they track their progress towards their blood pressure goals. Access resource [here](#).

### **Community Health Workers & Hypertension and Heart Health Interventions: A Resource for Program Managers and Administrators**

*Community Health Workers & Hypertension and Heart Health Interventions: A Resource for Program Managers and Administrators* is a resource for CHW program managers and administrators. It explains how CHW-led intervention programs can positively impact patients who have hypertension. About 75 million American adults (1 in every 3) have high blood pressure. Although high blood pressure can be easily detected and can be controlled with lifestyle changes and medication, almost a third of individuals with hypertension don't know they have it, and only about half have it under control. Due to their close understanding of and trust from the communities they serve, CHWs can be particularly strong champions for patients with hypertension and/or at risk of heart disease. This resource includes approaches that have been successful, a list of external resources, and additional information that will be useful to program managers and administrators looking to build on or begin a CHW-led hypertension and heart health intervention program. Access resource [here](#).



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