

# Practitioner's Guide: Key Tenets of Successful Lifestyle Programs for Hypertension Control and Management

PRESENTED BY  
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Centers for Disease Control and Prevention  
National Center for Chronic Disease Prevention and Health Promotion  
\*Division for Heart Disease and Stroke Prevention



Hello and welcome to today's Coffee Break, presented by the Applied Research and Evaluation Branch in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention.

My name is Yu-Jan Huang, and I am an ORISE fellow in the branch. I will be acting as today's moderator.

Our presenter today is Amena Abbas, a contracted health scientist on the Evaluation and Program Effectiveness Team within the Division for Heart Disease and Stroke Prevention's Applied Research and Evaluation Branch. She will be presenting on the identification and evaluation of the key tenets of successful lifestyle change programs to improve hypertension control and cardiovascular health.

## Before We Begin...

- Any issues or questions?
  - Use Q & A box on your screen
  - Email [AREBHeartInfo@cdc.gov](mailto:AREBHeartInfo@cdc.gov)



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Before we begin, there are some housekeeping items. If you are having issues with audio or seeing the presentation, please message us using the Q&A or send us an email at [AREBheartinfo@cdc.gov](mailto:AREBheartinfo@cdc.gov). Please submit any questions for the presenters using the Q&A as well. Since this is a training series on applied research and evaluation, we hope you will complete the poll at the end of the presentation and provide us with your feedback.

## Disclaimer

The information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

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So, without further delay. Let's get started. Amena, the floor is yours.



## Learning Objectives

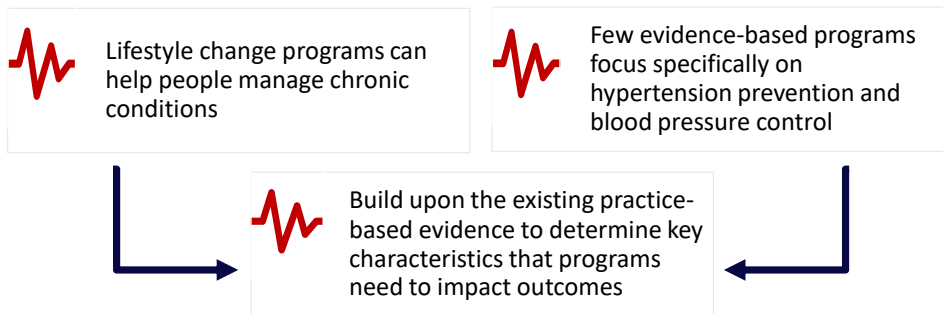
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- ✦ Highlight the Practitioner's Guide
- ✦ Identify and understand the key tenets of lifestyle programs focused on hypertension management and control
- ✦ Assess how lifestyle change programs can be adapted to meet the needs of populations disproportionately affected by hypertension

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- Thank you Yu-Jan
- During today's presentation I will:
  - Highlight the Key Tenets of Successful Lifestyle Programs Practitioner's Guide
  - Briefly describe the evaluation approach used to identify the key tenets of lifestyle programs that are vital to improvements in hypertension outcomes
  - And then review the specific adaptations that can be implemented when replicating lifestyle programs and how they can be tailored to populations at greatest risk for hypertension

# Focusing Lifestyle Change Programs On Hypertension

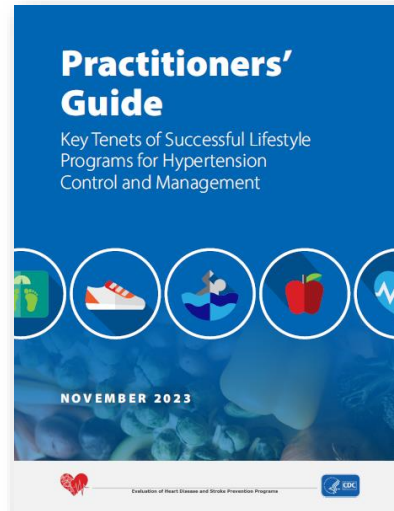


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- Hypertension continues to be a focus of public health chronic disease programs— In the Black and African American populations as well as Hispanics and Latinos, they are more likely to have hypertension and heart disease. Hypertension is also more common among people with lower income and those who do not have health insurance or have limited insurance
- While prior research has demonstrated that lifestyle programs can help people manage chronic conditions, especially among these populations disproportionately affected, there are few evidence-based programs that focus specifically on hypertension prevention and blood pressure control.
- Given this, we conducted an evaluation that built upon the existing literature and practice-based evidence for lifestyle programs to determine key characteristics that programs need - to have positive outcomes related to hypertension control.
- We also wanted to develop a practical tool to share these findings to support local and state health departments and implementers of lifestyle programs to put the lessons learned into practice.

Provides practical approaches and considerations for implementation of the key tenets.

Describes ways to tailor programs to different populations and settings.



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- Our findings and the key tenets have been developed into this guide that is now available online.
- This Practitioners' Guide was developed to help clinicians, public health professionals, decision-makers, community organizations, and other partners in the field in identifying and implementing effective lifestyle programs to improve hypertension outcomes.
- This guide highlights the tenets that have been identified through this project and describes the ways to tailor lifestyle programs to different populations and settings.
- The guide also spotlights examples of lifestyle programs to illustrate these key tenets and addresses health inequities and how to adapt programs to the specific needs of potential participants
- But let's review our methods throughout this project to briefly describe how we identified these tenets and practical lessons for implementation– then we will then come back to highlight the contents of the guide.

# Project Overview

## Exploratory Assessment

Assess the landscape of lifestyle programs demonstrating the potential to improve HTN to quickly identify characteristics of hypertension-related programs

## Literature Review and Meta-Analysis


Achieve a comprehensive, in-depth understanding of lifestyle programs for hypertension management through a scan of peer-reviewed literature

## Comparative Analysis

Understand commonalities—as well as differences—among characteristics of four lifestyle programs and programs identified in the literature review

## Evaluation of the BPSM program at Gateway

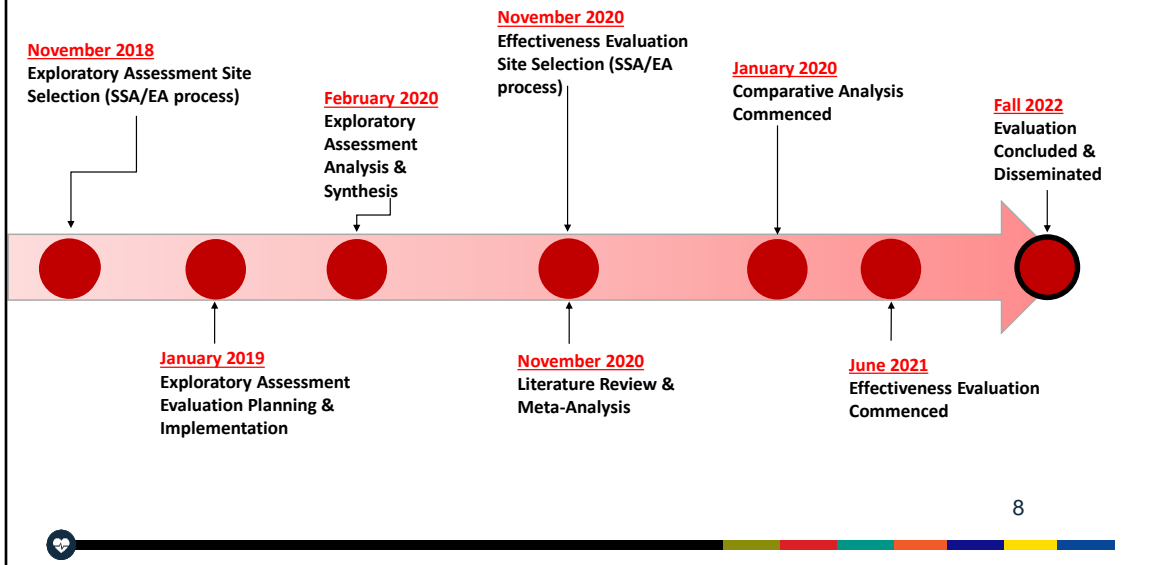
Understand how key aspects of the BPSM program connect with program outcomes and how they could be replicated in other settings

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- Identify key tenets of lifestyle programs that address hypertension management and control
  - Disseminate key tenets and strategies to the broader public health and cardiovascular disease prevention community

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- The evaluation project consisted of 4 phases: an exploratory assessment, literature review and meta-analysis, a comparative analysis, and an effectiveness evaluation. We will briefly describe each of these but there is more details available on the entire methodology in the practitioner's guide.

# Timeline of Evaluation Activities



- This is a quick overview of the timeline for this project, we started back in 2018
- and the entire project was completed in the fall of 2022

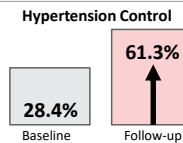


## Phase 1: Exploratory Assessment

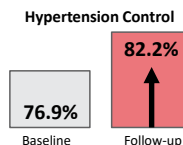
Community Heart Health Actions  
for Latinos at Risk (CHARLAR)

SBP ↓ 3.9%    DBP ↓ 3.2%

Eskenazi Health Hypertension  
Group Education Program  
(EHHGEP)



Vida Sana Health Hypertension  
Group Education

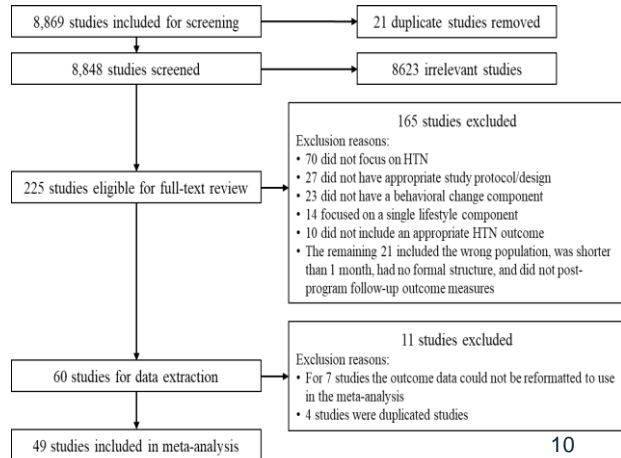


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- The exploratory assessment included an evaluation of 3 identified lifestyle programs and we examined the key characteristics of each program implementation and assessed their outcomes.
- All three programs provided culturally sensitive programming using clinical and/or non-clinical staff to serve adults disproportionately affected by cardiovascular disease.
- While we were able to identify some preliminary characteristics of HTN-focused lifestyle change programs, we realized that we needed to build more evidence to support these findings.

## Phase 2: Literature Review and Meta Analysis

**Literature search criteria:** published between 2000-2020, search terms included a combination of lifestyle and behavior, health condition, program, and evaluation terms

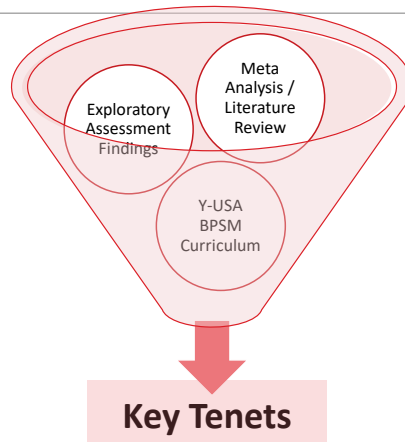


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- So, the next phase included a literature review and meta-analysis to look at programs that specifically focused on HTN control and management.
- The results allowed us to identify the implementation settings, populations served, the lifestyle behaviors targeted by different interventions, and program durations.

## Phase 3: Comparative Analysis

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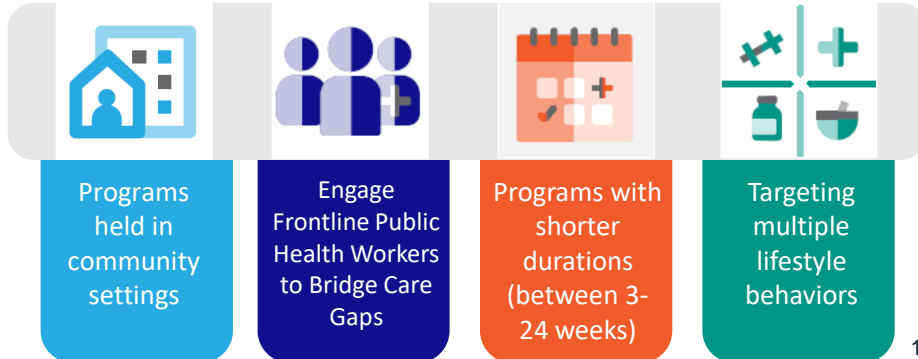


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- The third phase was a comparative analysis where we synthesized information from the previous work to identify commonalities and differences across multiple programs to then identify specific characteristics that are needed to implement a successful program that results in improvements in hypertension control.
- These characteristics became known as the key tenets for HTN-focused lifestyle change programs.

# Key Tenets Identified

Four Key Tenets of lifestyle change programs identified that demonstrate improvements in blood pressure control



- Through our evaluation methods, we identified the following 4 key tenets:
- #1: Implementing programs in community settings
- #2: Engagement of frontline public health workers who can bridge gaps in care
- #3: Programs with shorter durations (between 3 and 24 weeks)
- #4: Targeting multiple lifestyle behaviors

## Phase 4: Effectiveness Evaluation

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### Evaluation of the Gateway BPSM Program

#### Key Tenets in Practice

- Process evaluation: to assess implementation of Y-USA BPSM program
- Outcomes evaluation: hypertension outcomes
- Identify adaptations to scale and spread for high burden populations

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- The final phase of our research, we implemented an effectiveness evaluation to assess these tenets in practice through a process and outcomes evaluation
- the Gateway Region YMCA in St. Louis, Missouri was selected after reviewing several criteria
- A key factor in their selection was their recruitment efforts within the Promise Zone, which is a federally-designated improvement area that has initiatives in place to increase economic prosperity and improve health, education, and wellbeing within this area.
- They also had high enrollment numbers and demonstrated evidence of improved blood pressure outcomes pre-pandemic.
- The process evaluation described Gateway's experience implementing a Y-USA blood pressure self-monitoring program (OR BPSM), including Gateway's recruitment and engagement efforts specific to the Promise Zone and how the program worked for the populations most affected by hypertension.
- The outcome evaluation estimated changes in hypertension outcomes and changes in lifestyle behaviors

# Evaluation Findings from Gateway BPSM Program

## Program Characteristics



- Offered over short duration (16 weeks)
- One-on-one consultations with Heart Healthy Ambassadors
- Educational seminars on nutrition
- Offered virtual options

## Participant Outcomes



- Uncontrolled hypertension decreased by 10%
- Systolic blood pressure decreased by 2.6 mm of mercury among all participants

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- In conducting the process evaluation, we noted that the Gateway offered the Y-USA BPSM program with flexibility and offered the program over a short duration of 16 weeks. The program was also held in the local community YMCA and shifted to a virtual offering once the pandemic started. They also focused on multiple lifestyle behaviors through weekly exercise classes, nutrition seminars, and group sessions.
- In our outcomes analysis, there was improved hypertension management and control between baseline and program completion.
  - Uncontrolled hypertension decreased by 10%
  - Systolic blood pressure decreased by 2.6 mm of mercury among all participants
  - And for those that completed the program (which had at least 3 documented office hour visits and a minimum of two months between their first and final blood pressure reading), systolic blood pressure decreased by 4.5 mm of mercury

# Key Tenets in Practice

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So now taking the findings from the entire project for each key tenet, I'll go over how it was implemented at the Gateway YMCA as well as some broader implementation tips that are provided in the practitioner's guide. These tips

We also include health equity considerations. Since blood pressure outcomes are disproportionately experienced by certain populations by race, ethnicity, and other factors, our assessment of the tenets in practice include a closer look at how the programs we have evaluated impacted blood pressure outcomes across different groups. Thus the health equity considerations for each tenet are based on the findings across the evaluation project, and also gaps we have identified in program implementation.



## Key Tenet 1: Implement in Community Settings

### Gateway YMCA:



Used the Gateway YMCA facilities where participants gathered for other lifestyle programs



Offered remote and hybrid options

### Implementation Tips

- Develop Strong Community Partnerships
- Consider Adopting Train-the-Trainer Models
- Consider Socioeconomic and Geographic Factors of the Community Served
- Provide Incentives to Address Barriers to Participation

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The first key tenet we had identified is to implement programs in community settings. When we evaluated this tenet at Gateway's BPSM program, we found that they used the YMCA's facilities where participants gathered for other lifestyle programs and activities. but to expand access to the program, they offered remote and hybrid options. To implement this tenet, there are a three tips from our work:

1<sup>st</sup>: having support and buy-in from leadership is key to program sustainability. Leaders have the ability to help identify program volunteers, promote the program beyond the walls of their organizations, support community locations, and help to identify and provide in-kind support

2<sup>nd</sup>. Consider adopting train-the-trainer models to extend program impact. This can help lifestyle programs expand and multiple their effects. Programs can partner with community organizations (such as church leaders) who can help carry out programming

3<sup>rd</sup>. Consider the socioeconomic and geographic factors of the communities served. Programs should be tailored to meet the needs of the communities they serve. Low-income neighborhoods may lack grocery stores and retailers that carry affordable,

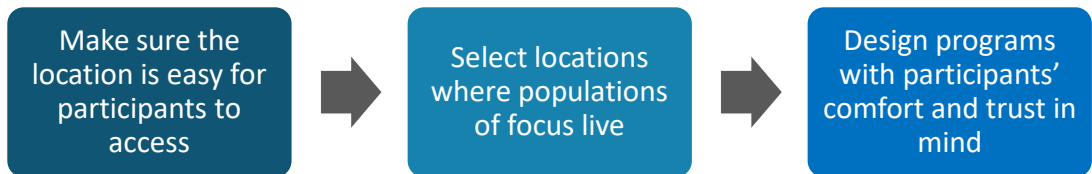


nutritious foods. Being located in the community helps to understand what the needs of participants are and then provide resources for participants. And then finally, provide incentives to address barriers to participation. For example, partnerships with pharmacies may allow for prescription vouchers. Partnerships with grocery stores may allow for grocery gift cards. Partnerships with community settings may allow for childcare during classes for parents to be able to attend.



## Key Tenet 1: Implement in Community Settings

### Health Equity Considerations



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And there are a few health equity considerations to support equitable access to these programs.

By making sure the location is easy for participants to access, programs can increase participation. Offering programs where participants already go (such as workplaces, community centers, and churches), may support participation.

- Accessible settings should also be considered, so settings near public transportation or grocery stores might be helpful.
- Also Using nontraditional venues, such as churches, may reduce disparities among people from racial and ethnic minority groups.

Finally, programs should also choose settings where participants feel most comfortable. By offering programs in community-based settings where participants may already feel familiar, programs may offer more relaxed environments and atmospheres and allow participants to form a supportive community.



## Key Tenet 2: Engage Frontline Public Health Workers

### Gateway YMCA:

- Hired Healthy Heart Ambassadors who were from the community for implementation
- Used Program Champions (former participants) to participate in recruitment and outreach

### Implementation Tips



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The second key tenet is to engage frontline public health workers who can bridge the gap between patients and health care systems. These may include CHWs or health coaches who do not provide medical advice, prescribe medication, or perform clinical procedures. But, they can help participants by delivering health education information, conducting physical activity programs, and providing nutrition planning.

The Gateway's program, used Healthy Heart Ambassadors who were from the community. They also used program champions, many of whom were former participants, to support recruitment and outreach. The findings from our evaluation point to how this can be a promising staffing model for other programs.

So a few things to consider when implementing this tenet include:

Building a team that is representative of the communities served can help to improve the program by reaching groups who otherwise would be missed, building strong community relationships, and fostering links with clinical staff.

Additionally, each team member should have clearly defined roles in the program. Frontline public health workers can take on various roles, including working with

referral partners, enrolling participants, or developing participant education materials.

Finally, frontline public health workers can meet with community leaders, attend community events, and host activities at schools or places of worship. Engaging in the community can support additional recruitment.



## Key Tenet 2: Engage Frontline Public Health Workers

### Health Equity Considerations

Develop and execute a participant recruitment strategy

Build trust with participants

Maintain trust by using proven participant engagement strategies

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And then here to improve equity, consider how to develop and execute a participant recruitment strategy. Frontline public health workers can develop a recruitment strategy and plan for outreach to populations of focus, based on race, ethnicity, socioeconomic status, and geography. They can also set program enrollment milestones to assess how well the strategy is working.

- Communication differences between patients and traditional healthcare providers may contribute to racial disparities in healthcare and sometimes too little information sharing occurs between patients and their providers.
- But staff who share common characteristics with the population of focus can help overcome distrust and improve this communication.
- Frontline public health workers can build relationships with participants by providing advice that supports hypertension management tailored to individual social needs and barriers to care and can also offer knowledge about community resources to foster links.



## Key Tenet 3: Use Shorter Program Duration

### Gateway YMCA:

16-week program  
that includes office  
hour visits

Allowed flexibility in  
scheduling sessions

### Implementation Tips

- Determine the right duration for the lifestyle program
- Develop a staffing plan for a shorter duration program
- Provide activities for participants on their own schedules

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Our third key tenet is to use shorter program durations, ideally less than 6 months. Many of the programs that we evaluated had durations of 3 to 16 weeks.

Specifically, Gateway's BPSM program was a 16 week program that included office hour visits and nutrition seminars. There was also flexibility in scheduling sessions.

To implement this in other programs, determine the right duration for the programs. There are benefits to shorter program durations, including convenience, and programs need to determine what the minimum duration is that will help participants learn the skills they need.

Programs should also assess what staffing levels will meet the demands of a shorter program. This may include planning for an increased number of participants or offering the programs more frequently.

Finally, to complement shorter programs, you can offer additional activities that participants can do on their own time. If the focus is on physical activity, programs may want to provide additional activities that encourage participants to count steps during their commute or to log daily exercise.



## Key Tenet 3: Use Shorter Program Duration

### Health Equity Considerations

Engage frequently with participants (and in different ways) during the program

Communicate with participants after program completion

Offer programs that meet the needs of families

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Shorter programs may also be more accessible and equitable for participants.

Staff members may choose to check-in with participants between sessions to keep engagement when there are fewer sessions. Staff may check in on concerns raised in previous sessions, progress towards achieving accessible goals, etc.

Several programs also followed up with participants after completion to extend program impact. CHWs may support this type of engagement through ongoing communication, referrals to community follow-up services, and medication reviews.

Finally, offering programs that meet the needs of families can support equity. Staff may offer sessions during the school year when children are in school. Parents may also be able to find programs of shorter duration more feasible.



## Key Tenet 4: Target Multiple Lifestyle Behaviors

### Gateway YMCA:



Participants saw linkage between lifestyle and maintaining a healthy blood pressure

### Implementation Tips

Determine which behaviors to target

Tailor the program curriculum to meet the needs of participants

Focus on helping participants by beginning with small, practical changes

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Finally, the fourth key tenet is to target multiple lifestyle behaviors.

The Gateway's program focused specifically on nutrition, physical activity, and stress. Participants were able to see linkages between lifestyle changes and maintaining a healthy blood pressure.

When considering how to implement this tenet in practice, consider which behaviors to target. Program staff will need to decide how many and which behaviors to focus on. Nutrition and physical activity are usually common so Staff may also consider adding medication management, stress reduction, smoking cessation, and others to their programs.

It is important to consider the specific needs of the participants—for example limited health literacy—so providing the appropriate level of content is important. Programs may also choose to offer cooking demonstrations with culturally relevant recipes and foods that are accessible to participants

Finally, when choosing the behaviors to focus on, it is also important to recognize that people may not have the resources or time to make multiple lifestyle changes at

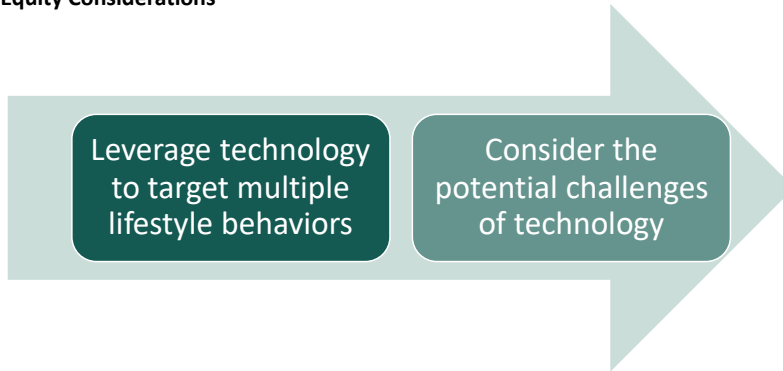


once. Focusing on small, achievable goals can help participants eventually meet their goals and stay motivated.



## Key Tenet 4: Target Multiple Lifestyle Behaviors

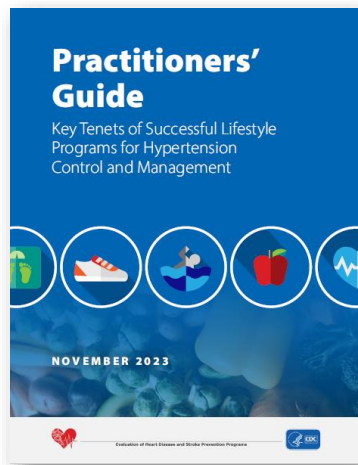
### Health Equity Considerations



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Program staff can use technology in various ways to increase the reach of the program and expand the focus to multiple lifestyle behaviors. For example, the program can offer virtual exercise classes to complement coaching sessions. Programs can also post online recordings of nutrition seminars or offer stress-reduction sessions that are available on-demand for participants to view on their own timelines. However, with technology, it is especially important to consider the challenges and accessibility for participants. Participants may lack internet access or smartphones/computers, therefore programs must also consider alternative ways to work with participants.

# Practitioner's Guide



Implementation tips



Resources



Program Spotlights



Methodologies for identifying key tenets

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You will find these implementation considerations as well as:

- links to relevant resources under each tenet
- spotlights on programs we have evaluated in this project that highlight details of their program and their participant outcomes and can offer additional examples of successful program implementation.
- There are also appendices that layout the methodology for identifying the key tenets.

The practitioners guide is located in the DHDSP Best Practices Clearinghouse and the link will be provided in the chat.

[LINK: [Practitioner's Guide: Key Tenets of Successful Lifestyle Programs for Hypertension Control and Management - HEART DISEASE AND STROKE BEST PRACTICES CLEARINGHOUSE \(cdc.gov\)](#)]

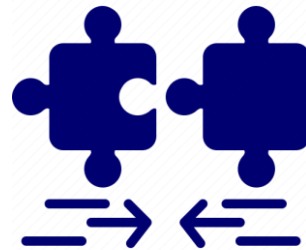
## Key Takeaways

• The key tenets identified can be used to develop or adapt lifestyle change programs focused on improving hypertension management.

### Considerations for practitioners

• How to best address health disparities in both the design and implementation of lifestyle change programs, especially in community settings

• Adapt the lessons learned from this evaluation when designing or implementing a lifestyle change program to better fit the needs of individuals with hypertension within the population of interest.



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Based on our evaluation we can offer the following implications that public health practitioners can use in developing or adapting lifestyle change programs:

- Health disparities should be considered in the design, implementation, and evaluation methods focusing on how using these tenets can facilitate health equity and the changing landscape for chronic disease management.
- Program planners and evaluators may consider adapting the lessons learned from this evaluation when designing or implementing a program to better fit the needs of individuals with hypertension within the population of interest and ensure that outcomes may be better when activities are implemented in conjunction with clinical practices. For example lifestyle interventions done in combination with patient's adhering to their medications or clinicians monitoring medication adherence can have a greater impact.

## References & Citations

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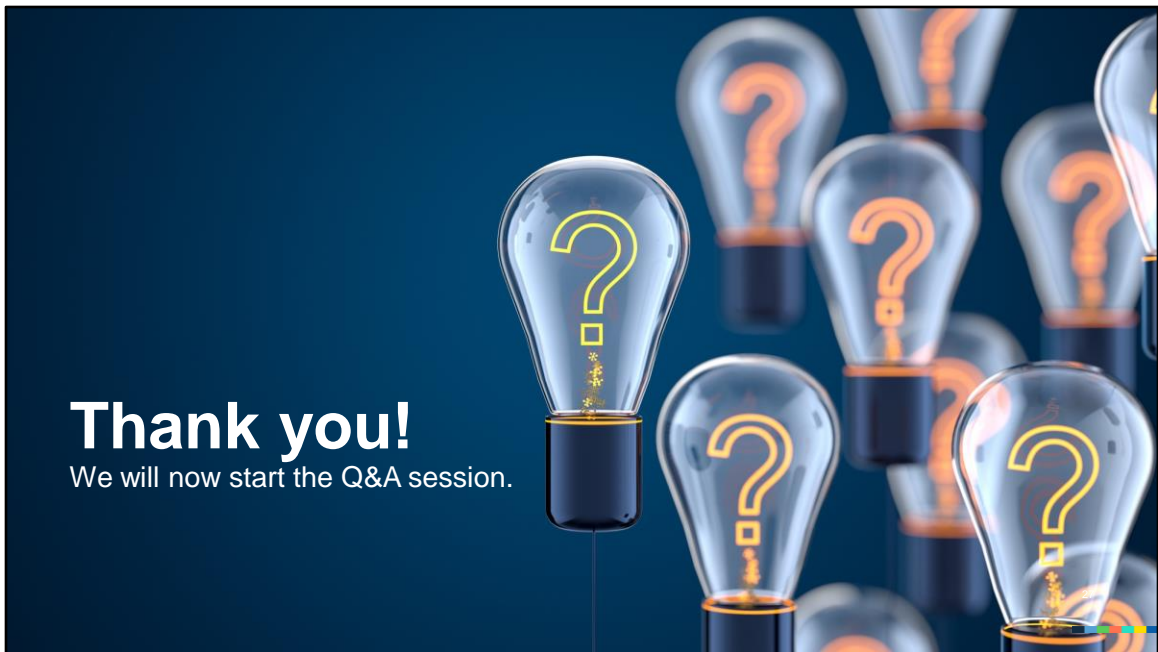
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There are additional references in the practitioners guide.



Thank you, Amena! At this time, we'll take questions. First, we'll check to see if any questions have come in through the Q&A box.

**Question 1:** What change in healthy behaviors have you been able to track among participants? Was there a notable difference from baseline until completion?

**Answer 1:** CHARLAR tracked daily frequency of fruit and vegetable consumption, there was also a program that tracked exercise and consumption of sugary beverages. There was a statistically significant increase in the fruits and vegetables and a decrease in the sugary drinks. There was also an noted increase in the exercise but was not statistically significant.

**Question 2:** Rural areas lack many resources including accessible programs for lifestyle change or exercise facilities. What are your recommendations to improve access?

**Answer 2:** This is where the benefit of community institutions really comes into play, especially in geographic regions of the US where houses of worship are common and abundant. Holding exercise classes like group yoga or group workout or neighborhood walks in these community based settings can allow for accessibility where there are scarce exercise

facilities.