

# Best Practices Guide for Cardiovascular Disease Prevention Programs

AREB 2021 Coffee Break Presentation

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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



## MODERATOR

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 Cindy Huang, and I am an ORISE Fellow and I will be acting as today's moderator. Our presenters are Nancy Andrade, a Health Scientist and Allison White, an ORISE Fellow. We all work with the Applied Research and Evaluation Branch.

## Before we begin...

- All participants have been MUTED.
- Any issues or questions?
  - Use Q & A box on your screen
  - Email [AREBheartinfo@cdc.gov](mailto:AREBheartinfo@cdc.gov)



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### MODERATOR

Before we begin, there are some housekeeping items. If you are having issues with audio or seeing the presentation, please message us using the chat box or send us an email at [AREBheartinfo@cdc.gov](mailto:AREBheartinfo@cdc.gov). Please hold your questions until we reach the end of the presentation. 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

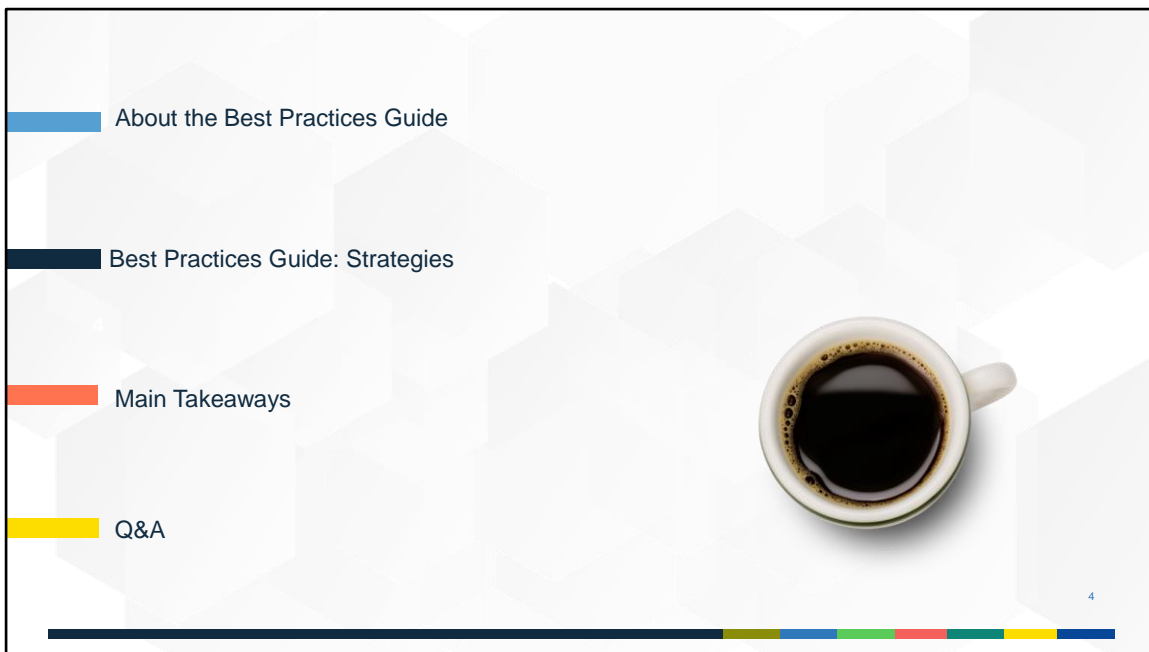
The information presented here is for training purposes and reflects the views of the presenters. It does not necessarily represent the official position of the Centers for Disease Control and Prevention.

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MODERATOR

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.

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

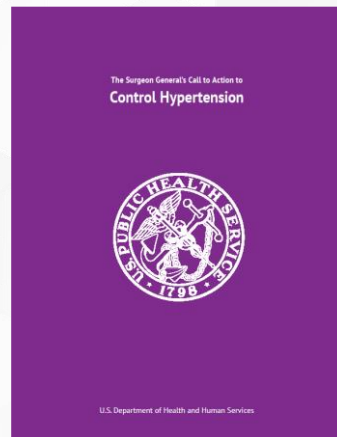


Thanks, Cindy! The aim of today's call is to walk through the Best Practices Guide for Cardiovascular Disease Prevention Programs, also known as the BPG. The BPG was published in 2017 by the Applied Research and Evaluation Branch. The purpose of the guide is to inform state and local health leaders about evidence-based strategies to prevent and/or manage cardiovascular disease, also known as CVD. The goal of today's presentation is to reintroduce the guide and shed additional light on how the strategies can be used to address heart disease and stroke.

First, I will go over the development of the guide, including the frameworks and tools used to assess the evidence behind each strategy. Allison will then take over and talk more about the strategies included in the current version of the guide and how they are being implemented. The presentation will conclude with the main takeaways, followed a Q&A.

## Background

- Heart disease is the leading cause of death for people in the United States.
- Each year, CVD claims 800,000+ lives and costs over \$350 billion.
- Treatments for hypertension and hyperlipidemia (high cholesterol) are effective and inexpensive.
- Most people do not have these risk factors under control.

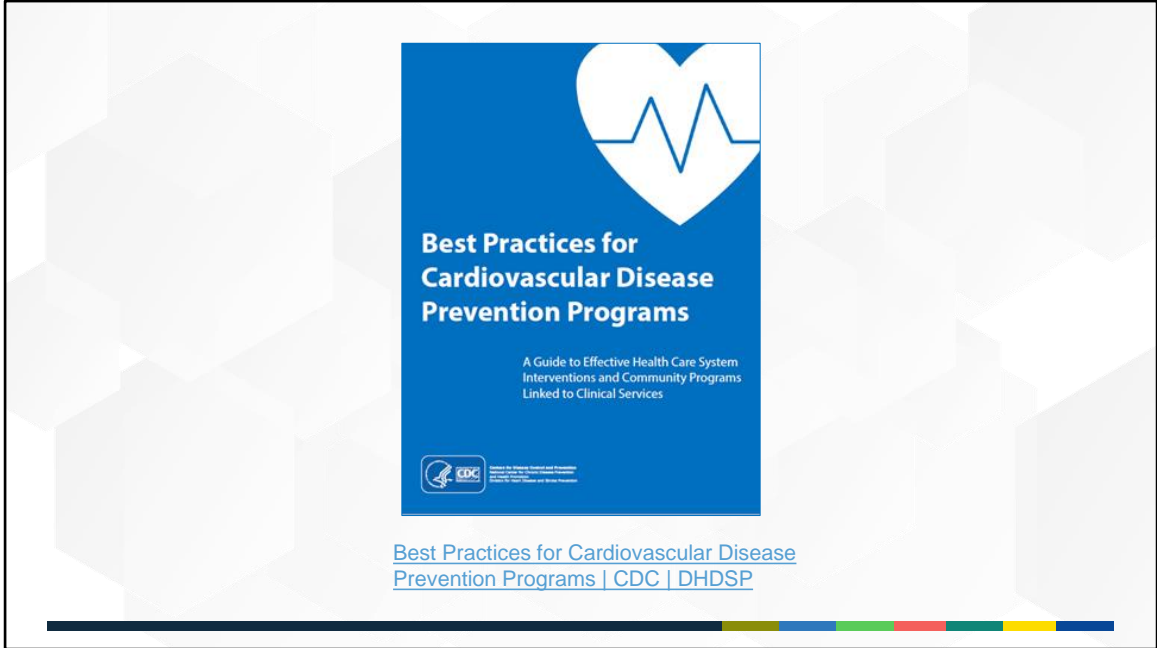


[The Surgeon General's Call to Action to Control Hypertension | cdc.gov](https://www.cdc.gov)

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As many of you know, heart disease is the leading cause of death in the United States. It claims over 800,000 lives each year and costs the U.S. economy over \$350 billion annually in lost productivity and medical care costs. High blood pressure and high cholesterol are risk factors leading to heart disease, and treatments for these conditions are known to be effective and relatively inexpensive. Despite available treatments, most people do not have these risk factors under control. More work is needed to help prevent and manage heart disease and stroke.

[The Surgeon General's Call to Action to Control Hypertension \(cdc.gov\)](https://www.cdc.gov)



It's often said that there's a significant lag time—up to 17 years or more—between the discovery of an effective practice and its widespread use in health systems. One of our main goals in our Branch is to shorten this lag time.

With the Best Practices Guide, we wanted to produce a resource to facilitate the translation of research findings to practice. **We are currently working on an update to be released in 2022 using a similar process to the process used for the 2017 guide.** Because of this, we wanted to remind you about the development process for our Best Practices Guides.

## [Best Practices for Cardiovascular Disease Prevention Programs](#)

[cdc.gov](https://www.cdc.gov)

## The Best Practices Framework

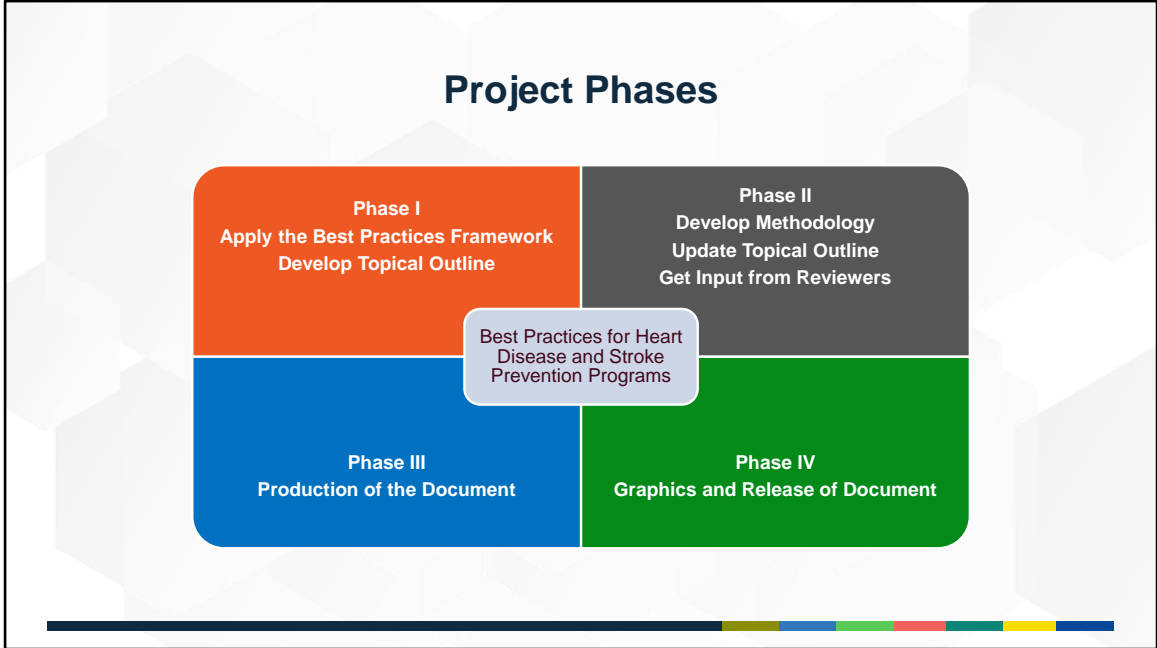


Spencer LM, Schooley MW, Anderson LA, et al. Seeking Best Practices: A Conceptual Framework for Planning and Improving Evidence-Based Practices. *Prev Chronic Dis*. 2013;10:130186. doi: <http://dx.doi.org/10.5888/pcd10.130186>.

The theoretical framework we used to guide our thinking for this project came from the Best Practices framework, which CDC developed and published in the *Preventing Chronic Disease* journal in 2013.

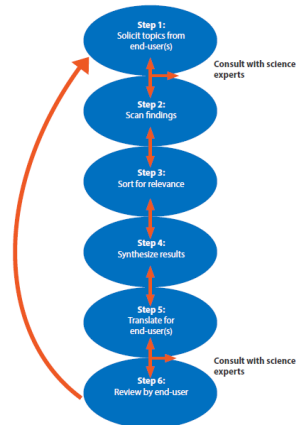
According to this framework, “best” practices are those that have both the highest quality of evidence supporting them-(the x-axis here) and have shown a high potential for public health impact (which is on the y-axis here and conceptualized in terms of effectiveness, reach, feasibility, sustainability, and transferability).





The project was divided into 4 main phases, which you can see here. In the 1<sup>st</sup> phase, we applied a theoretical framework and developed a topical outline, in phase 2, we developed the methodology that was used to review the topics and get input from reviewers, who included subject matter experts in the strategies being assessed for evidence of effectiveness and impact. **Any discrepancies between the reviewers' results were resolved through discussion with the project team.** In Phase 3, we put all the pieces together in the production of the document, and in Phase 4, we focused on the final stages of production, review, and the guide's launch on the CDC website in 2017.

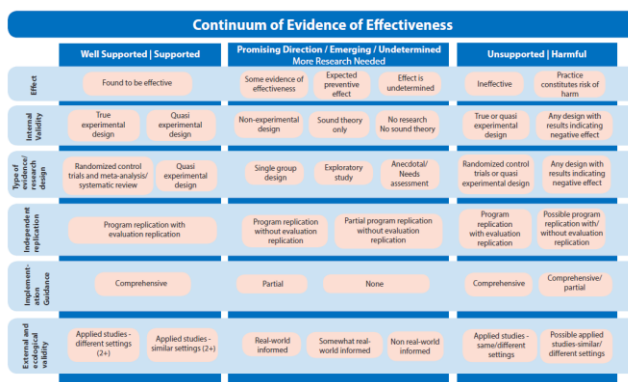
## Rapid Synthesis and Translation Process Framework



Thigpen S, Puddy RW, Singer HH, Hall DM. Moving knowledge into action: developing the Rapid Synthesis and Translation Process within the Interactive Systems Framework. *Am J Community Psychol.* 2012;50(3-4):285–294.

The Rapid Synthesis and Translation Process Framework, which is shown here, guided our development of the BPG. This conceptual process was developed within CDC's National Center for Injury Prevention and Control, and it consists of six fundamental steps, which roughly occur in this order. You can see we consulted with subject matter experts and end users at several places in the process, first in step 1 to solicit topics and get input on the content of the guide, and then again in step 6. One of the aspects unique to this project was that the best practices guide was identified early on as containing Influential Scientific Information (or ISI, which is a specific designation by our agency). So, when we engaged external reviewers toward the end stages of our project, we followed agency-wide protocols for conducting an ISI review process, which involved soliciting formal reviews and input from external subject matter experts.

# Continuum of Evidence of Effectiveness



Puddy RW, Wilkins N. *Understanding Evidence Part 1: Best Available Research Evidence. A Guide to the Continuum of Evidence of Effectiveness*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2011.

In developing the BPG guide, we went through several steps to evaluate and select the strategies for inclusion. To assess the quality of the evidence supporting the strategies, we had a team of reviewers use an interactive tool called the Continuum of Evidence of Effectiveness--which is what you see here. This tool is available online from CDC's injury center. To use this tool, a rater answers questions about the body of research available for a certain strategy, and then they answer questions about the research designs that have been used to study that strategy, including: the validity and reliability of findings, replication of findings, and other considerations that you can see on the tabs for each of the horizontal rows in this figure.

# Continuum of Evidence of Effectiveness

Continuum of Evidence of Effectiveness						
	Well Supported   Supported		Promising Direction / Emerging / Undetermined More Research Needed		Unsupported   Harmful	
Effect	Found to be effective		Some evidence of effectiveness	Expected preventive effect	Effect is undetermined	Ineffective Practice constitutes risk of harm
Internal Validity	True experimental design	Quasi experimental design	Non-experimental design	Sound theory only	No research No sound theory	True or quasi experimental design Any design with results indicating negative effect
Type of evidence/design	Randomized control trials and meta-analysis/systematic review	Quasi experimental design	Single group design	Exploratory study	Anecdotal/Needs assessment	Randomized control trials or quasi experimental design Any design with results indicating negative effect
Independent replication	Program replication with evaluation replication		Program replication without evaluation replication	Partial program replication without evaluation replication	Program replication with evaluation replication	Possible program replication with/without evaluation replication
Implementation guidance	Comprehensive		Partial	None	Comprehensive	Comprehensive/partial
External and real-world validity	Applied studies - different settings (2+)	Applied studies - similar settings (1+)	Real-world informed	Somewhat real-world informed	Non-real-world informed	Applied studies - same/different settings Possible applied studies similar/different settings

Puddy RW, Wilkins N. *Understanding Evidence Part 1: Best Available Research Evidence. A Guide to the Continuum of Evidence of Effectiveness*. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2011.

After answering the series of questions, this tool highlights the resulting categories for each row to indicate whether the practice is supported or well-supported, promising/emerging, or unsupported/harmful. For our best practices guide, we included only strategies that were in the supported/well supported category for most of these criteria.

## The Best Practices Framework



Spencer LM, Schooley MW, Anderson LA, et al. Seeking Best Practices: A Conceptual Framework for Planning and Improving Evidence-Based Practices. *Prev Chronic Dis*. 2013;10:130186. doi: <http://dx.doi.org/10.5888/pcd10.130186>.

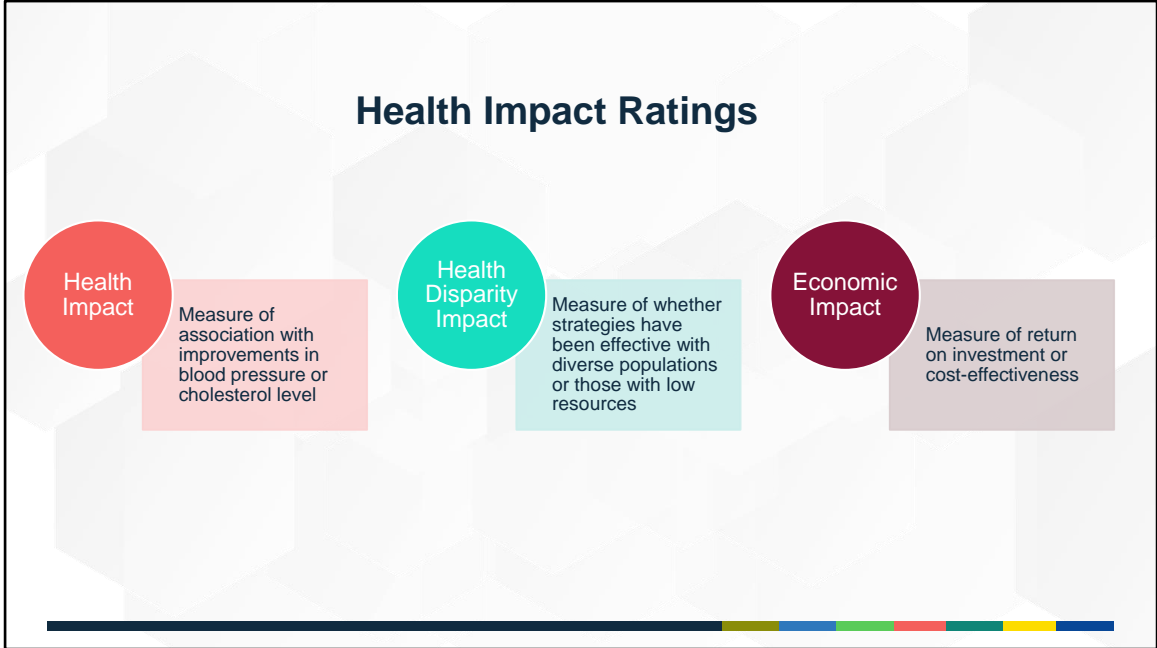
So, the continuum tool assessed the quality of evidence on the x-axis, and it also touched on some of the elements of impact, but we wanted to go further in addressing impact, especially the reach, feasibility and sustainability.

## The Best Practices Framework



Spencer LM, Schooley MW, Anderson LA, et al. Seeking Best Practices: A Conceptual Framework for Planning and Improving Evidence-Based Practices. *Prev Chronic Dis*. 2013;10:130186. doi: <http://dx.doi.org/10.5888/pcd10.130186>.

Using the same literature base that we referenced for the strength of evidence, we went through some additional steps to specifically look at the evidence of health impact of each of the strategies.



When reviewing the strength of evidence for impact, we asked reviewers to assess the evidence and make ratings on potential public health impact in these 3 areas:

1. Health impact—refers to the strategy’s association with improvements in blood pressure or cholesterol levels,
2. Health disparity impact--gets at "reach" and is a measure of whether the strategies have been effective with diverse or low-resource populations, and
3. Economic impact--gets at feasibility & sustainability and is a measure of whether there's evidence that the strategy demonstrates any return on investment or cost-effectiveness.

## About the Guide: Translating Evidence into Action

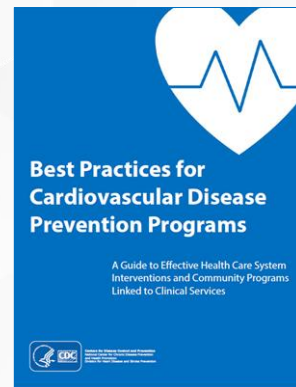
The **Best Practices Guide (BPG) for Cardiovascular Disease Prevention Programs**: a translation resource that highlights strategies found to be effective in controlling high blood pressure and high cholesterol levels.

Research shows that there are significant delays in translating health-care related research into public health programs and medical practice.

The BPG was created using the Rapid Synthesis Translation Process and the Best Practices Framework to facilitate the translation of knowledge to action.

The following slides include eight strategies that have a high-level of evidence for CVD prevention and management. Each slide includes:

- A description of the strategy
- Evidence of effectiveness
- Implementation considerations
- Evidence of impact



The current version of the BPG can be found [here](#).

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In summary, the Best Practices Guide includes eight strategies that have a high-level of evidence for CVD prevention and management.

The following slides will include:

- A description of the strategy
- Evidence of effectiveness
- Evidence of impact
- Implementation considerations
- Story from the Field



# BEST PRACTICES GUIDE: STRATEGIES

GOING THROUGH THE STRATEGIES

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I will now turn over the next part of the presentation to Allison.

## Best Practices for Cardiovascular Disease Prevention Programs



Clinical Decision Support Systems



Reducing Out-Of-Pocket Medication Costs



Collaborative Practice Agreements



Self-Management & Education



Community Health Workers



Self-Monitoring Blood Pressure



Medication Therapy Management



Team-Based Care










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Thanks, Nancy! Before jumping into the strategy descriptions, I want to provide a quick overview about how I will be addressing each strategy. As stated previously, each strategy in the Best Practices guide is broken down into six main sections. For the sake of time, I will go over the strategy description, both the evidence of effectiveness and impact summaries, and the setting and policy portions of the implementation considerations section. I will also be presenting each strategy in alphabetical order, which differs from the full guide. If you'd like to learn more about the sections I will not be discussing, then I'd recommend checking out the full guide on DHDSP's website.

# Clinical Decision Support Systems



Clinical decision making is guided by computer-based programs that analyze patient data within electronic health records (EHRs), whereby providers receive prompts to implement evidence-based clinical guidelines at the point of care based on its analysis.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	Primarily in primary outpatient care centers.
<b>Evidence of Impact</b>	<b>Policy &amp; Law</b>	Vendors for these programs must fully disclose their sources and potential limitations of the program to the buyer. Clinicians must ensure these programs are regularly updated. In both cases, avoidance of these requirements can occur.
<ul style="list-style-type: none"> <li>Shown to <b>improve clinical decision-making</b> in the following areas: making recommendations for screenings, ordering clinical tests to detect CVD, and prescribing CVD medications to patients.</li> <li>More research is needed to ascertain its <b>impact on diverse patient populations</b> and affect on health system costs.</li> </ul>	<b>Guidance</b>	<ul style="list-style-type: none"> <li><a href="#">Provider Toolkit to Implement Hypertension Control by American Medical Group</a></li> <li><a href="#">How to Guides for CDS Implementation by HealthIT.gov</a></li> </ul>
	<b>Resources</b>	<ul style="list-style-type: none"> <li><a href="#">CDC's Million Hearts</a></li> <li><a href="#">Office of the National Coordinator for Health Information Technology</a></li> <li><a href="#">Agency for Healthcare Quality and Research</a></li> </ul>

**Clinical decision support systems**, also known as (CDSS), are computer-based programs that first analyze a patient’s electronic health record information, and then provide specific prompts to health care providers that best help them align the delivery of a patient’s care to evidence-based clinical guidelines. The evidence base demonstrating the effectiveness of CDSS is very strong across the continuum of evidence of effectiveness framework. It is also shown to improve clinical decision-making, although more research is needed to ascertain its impact on diverse patient populations and its affect on health system costs. CDSS are typically implemented in primary outpatient care centers and are bought by health systems through vendors. Vendors for these programs must fully disclose their sources and potential limitations of the program to the buyer, and once bought and used in health systems, clinicians must ensure these programs are regularly updated. In both cases, avoidance of these requirements can occur, creating policy and law concerns that can impede implementation. In short, Clinical Decision Support Systems are programs that help clinicians deliver care based on evidence-based guidelines, which in turn can help improve patient health outcomes.

# Collaborative Practice Agreements



A legal agreement in which pharmacists assume responsibility for ordering lab tests, providing counseling, and adjusting drug regimens without needing a provider consult. Under a defined protocol, Collaborative Practice Agreements (CPAs) enable collaborative drug therapy management (CDTM) between doctors and pharmacists.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	Federally Qualified Health Centers (FQHCs), patient-centered medical homes, and managed healthcare systems across the United States.
	<b>Policy &amp; Law</b>	State scope-of-practice laws may or may not allow the use of CPAs within pharmacist scope-of-practice laws. Additional challenges include billing and unanimous agreement on terms.
	<b>Guidance</b>	Federal <ul style="list-style-type: none"> <li><a href="#">A Resource and Implementation Guide for Adding Pharmacists to the Care Team</a></li> </ul> State <ul style="list-style-type: none"> <li><a href="#">National Alliance of State Pharmacy Associations</a></li> <li><a href="#">American Pharmacists Association</a></li> </ul>
<b>Evidence of Impact</b>	<b>Resources</b>	Guides and examples illustrate the steps health systems can take <ul style="list-style-type: none"> <li><a href="#">AHRQ's Pharmacy Quality Alliance</a></li> <li><a href="#">Resource for Government &amp; Private Payers</a></li> <li><a href="#">Public Health Partnering with Pharmacists</a></li> </ul>

**Collaborative practice agreements**, also known as CPAs, are used to enable collaborative drug therapy management, which allows qualified pharmacists to deliver services within the context of a defined protocol and assume professional responsibilities usually assigned to primary care providers. An example of a responsibility a pharmacist can undertake includes performing patient assessments, counseling, and referrals.

Strong evidence exists that demonstrates this strategy is effective; however, implementation guidance lacks comprehensiveness. When implemented, the strategy has shown to improve patient health outcomes, increase medication adherence, and be cost saving for health systems. Insufficient evidence exists that show CPA's to be effective among diverse patient populations.

CPAs can be enacted in Federally Qualified Health Centers, patient-centered medical homes, and managed healthcare systems. Furthermore, CPAs are typically authorized through state scope-of-practice laws that may or may not allow for their use within pharmacist scope-of-practice laws. Challenges associated with billing for services also exist. In essence, this strategy aims to expand a patients' care team by allowing pharmacists

to assume responsibilities that can better address their patient's adherence to their medications.

# Community Health Workers



Work with community members by connecting them to health and social services, which helps individuals' access and receive crucial services. Community health workers (CHWs) facilitate the delivery of care across many sectors.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	Integrated in a variety of primary care settings, including Federally Qualified Health Centers (FQHCs), managed care health systems, patient-centered medical homes, and community pharmacies.
<b>Evidence of Impact</b>	<b>Policy &amp; Law</b>	Defining the amount of reimbursement and terms credentialing/licensing of CHWs vary across states.
<p>CHWs can help:</p> <ul style="list-style-type: none"> <li>• <b>Lower</b> blood pressure, cholesterol, and blood sugar levels.</li> <li>• <b>Improve</b> knowledge, receipt, and adherence to health care.</li> <li>• <b>Reduce</b> health disparities.</li> <li>• <b>Cost-effective</b>.</li> </ul>	<b>Guidance</b>	CDC has compiled evidence-based research to support the effectiveness of CHWs in the <a href="#">Community Health Worker Toolkit</a> .
	<b>Resources</b>	<ul style="list-style-type: none"> <li>• <a href="#">CDC's 6/18 Initiative</a></li> <li>• <a href="#">CDC's Million Hearts Initiative</a></li> <li>• <a href="#">The Institute of Medicine and National Academies Press</a></li> <li>• <a href="#">Centers for Medicare &amp; Medicaid Services</a></li> </ul>

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**Community health workers (CHW)** are frontline public health workers who link members of a community to health and social service programs. Integrating community health workers on clinical care teams and in the community aims to improve the quality and cultural responsiveness of service delivery. This strategy is effective across the evidence of effectiveness continuum. Additionally, there is a strong evidence of impact- this strategy has been shown to for increasing patient knowledge and medication adherence, resulting in lowered blood pressure and cholesterol levels among diverse patient populations.

CHWs can work in Federally Qualified Health Centers (FQHCs), managed care health systems, patient-centered medical homes, and community pharmacies. The need for policies to ensure that CHWs are sustainably reimbursed for their contribution to team-based care is a frequently cited concern. There is also debate about whether states should require credentialing or certification of CHWs.

In sum, integrating community health workers on clinical care teams and in the community is an evidence-based strategy that supports the delivery of quality care.



# Medication Therapy Management



A distinct service or group of services provided by health care providers, including pharmacists, to ensure the best therapeutic outcomes for their patients.

Evidence of Effectiveness	Implementation Considerations
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p> <p><b>Evidence of Impact</b></p> <ul style="list-style-type: none"> <li>• Shown to <b>lower</b> blood pressure and cholesterol levels, while also improving the safe and effective use of medications among patients.</li> <li>• Medication therapy management (MTM) can produce health care cost savings and a <b>positive</b> return on investment (ROI) for health care systems, but the evidence-base for its impact on diverse patient populations is insufficient.</li> </ul>	<p><b>Setting</b> Federally Qualified Health Centers (FQHCs), patient-centered medical homes, managed care health systems, community pharmacies, hospital pharmacies, and primary care clinics.</p> <p><b>Policy &amp; Law</b> Centers for Medicare &amp; Medicaid Services (CMS) provides this to beneficiaries with multiple chronic health conditions under Medicare Part D. Outside of CMS, reimbursement varies by state. Consider using a CPA with shared blood pressure management protocols between providers and pharmacists.</p> <p><b>Guidance</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Centers for Medicare &amp; Medicaid Services</a></li> <li>• <a href="#">American Pharmacists Association</a></li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Agency for Healthcare Research &amp; Quality</a></li> <li>• <a href="#">CDC's 6/18 Initiative</a></li> <li>• <a href="#">CDC's Million Hearts Initiative</a></li> </ul>

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**Medication Therapy Management**, also known as MTM, is a service or group of services provided by health care providers, including pharmacists, to ensure the best therapeutic outcomes for patients.

MTM can include a broad range of services, often centering on:

- (1) identifying uncontrolled hypertension,
- (2) educating patients on CVD and medication therapies, and
- (3) advising patients on health behaviors and lifestyle modifications for better health outcomes.

This strategy has shown to be effective across the continuum of evidence, although the exact combination of MTM activities tends to vary between settings. MTM is especially effective for patients with multiple chronic conditions. This strategy can be implemented in several settings, including FQHCs, managed care health systems, and community and hospital pharmacies. MTM is currently supported under the Centers for Medicare & Medicaid Services (CMS) as a service available to selected Medicare beneficiaries. Outside of the CMS guidelines, reimbursement for time and services is a key issue for pharmacists performing MTM.



To summarize, MTM is an effective strategy to address patients' adherence to blood pressure and cholesterol lowering medications.

# Reducing Out-of-Pocket Medication Costs



Changes to policies and programs that make medications for CVD prevention more affordable. Costs can be reduced by providing new or expanded drug insurance coverage and lowering or eliminating out-of-pocket payments for patients with high blood pressure and high cholesterol.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	By health care providers and plans, government agencies, and employers who offer insurance plans to their employees.
	<b>Policy &amp; Law</b>	Can be coordinated and implemented through health care systems, partnerships, and health care providers or insurance plans. One reducing out-of-pocket costs (ROPC) policy approach is to reduce or eliminate copayments for generic medications.
	<b>Guidance</b>	Collaboration between public insurance plans and private insurance plans should be considered to promote use of these strategies, but there is no direct guidance for ROPC.
	<b>Resources</b>	<ul style="list-style-type: none"> <li>• <a href="#">CDC's 6/18 Initiative</a></li> <li>• <a href="#">CDC's Medication Adherence Action Guide</a></li> </ul>

### Evidence of Impact

- Improves medication adherence, which helps lower patients' blood and cholesterol levels.
- Reducing costs is **effective** across diverse patient populations; however, more economic evidence is needed to ascertain whether it is cost-effective for health systems.

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**Reducing out of pocket medication costs** consist of strategies that aim to enhance patients' adherence to their medications by removing cost as a barrier. Costs can be reduced by providing new or expanded drug insurance coverage and by lowering or eliminating out-of-pocket payments for patients with high blood pressure and high cholesterol levels.

The evidence base supporting the implementation of ROPC strategies is strong across the evidence framework; but implementation guidance strategies are promising and emerging.

In terms of impact, ROPC improves medication adherence, which helps lower patients' blood and cholesterol levels. Reducing costs is effective across diverse patient populations, but more evidence is needed on whether it is cost-effective for health systems.

ROPC strategies can be implemented by health care providers and plans, government agencies, and employers who offer insurance plans to their

employees. ROPC can be implemented through changes to policy and laws. One known policy approach is to reduce or eliminate copayments for generic medications.

Overall, ROPC is an effective strategy shown to improve blood pressure and cholesterol levels among patients by reducing or removing cost as a barrier to medication adherence.

# Self-Management and Education



Health professionals empower individuals with a chronic condition to self-manage by providing them with education, support for lifestyle modifications, and the skillset to enhance their health.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	YMCAs, FQHCs, and managed care health systems.
	<b>Policy &amp; Law</b>	CMS's Cardiac Rehabilitation Incentive Payment Model reimburses cardiac services that include subject matter experts, but only in selected geographic areas. Update: the model was cancelled prior to its public release.
	<b>Guidance</b>	Health departments can link patients to self-management programs in their communities. Official guidance to use includes CDC's guide <a href="#">Learn More, Feel Better</a> .
	<b>Resources</b>	Self-management support and education for chronic disease is widely supported by federal and nonfederal initiatives, including <a href="#">Million Hearts</a> .

**Evidence of Impact**

- Demonstrates **positive health outcomes** among patients with CVD and is linked to increased medication adherence and self-reported health scores.
- Self-management and education (SME) is **effective** among both White and African American participants, but more studies are needed to test its **effect**.

**Self-management and Education** is a patient focused strategy where health professionals empower patients to self-manage their cardiovascular health by providing education on lifestyle modifications and skills.

The evidence base for implementing self-management and education for people with chronic disease is very strong; limited implementation guidance is available. In terms of impact, SME demonstrates positive health outcomes among patients with CVD and is linked to increased medication adherence and self-reported health scores. More research is needed to ascertain the strength of impact the strategy has on reducing health disparities and improving cost-effectiveness.

This can be implemented in various settings, including YMCAs, FQHCs, and managed care health systems. The strategy is further supported by national initiatives, for instance, CMS's Cardiac Rehabilitation Incentive Payment Model.

To conclude, SME is an effective strategy that enables patients to manage their own health with the support of their healthcare providers.

# Self-Measured Blood Pressure



Patients use their own blood pressure monitoring devices to assess their blood pressure overtime and seek out clinical support when problems arise.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	Clinical and community settings, including FQHCs, general practices, YMCAs, and Veterans Affairs medical centers (VAMCs).
<b>Evidence of Impact</b>	<b>Policy &amp; Law</b>	Insurance coverage for self-measured blood pressure (SMBP) is not universal. Healthcare flexible spending accounts may be used if the SMBP is not covered.
<ul style="list-style-type: none"> <li>Combined with clinical support, SMBP is shown to <b>reduce the risk of death</b> and disability associated with high blood pressure.</li> <li>This is a <b>cost-effective strategy</b> that reduces expenditures incurred by patients and health care systems.</li> </ul>	<b>Guidance</b>	Through Million Hearts, CDC promotes: <ul style="list-style-type: none"> <li><a href="#">Action Steps for Clinicians</a></li> <li><a href="#">Action Steps for Public Health Practitioners</a></li> <li><a href="#">Million Hearts Tools</a></li> </ul>
	<b>Resources</b>	Federal agencies and initiatives provide the following resources: <ul style="list-style-type: none"> <li><a href="#">Community Preventive Services Task Force</a></li> <li><a href="#">CDC's 6/18 initiative</a></li> <li><a href="#">USPSTF</a></li> </ul>

**Self-measured blood pressure (SMBP)** is also a patient empowered/focused strategy that encourages patients to measure their own blood pressure using at-home monitoring devices.

The evidence of effectiveness for SMBP is strong across the continuum of evidence framework. When combined with clinical support, SMBP is shown to reduce the risk of death and disability associated with high blood pressure. Lastly, this is a cost-effective strategy that reduces expenditures incurred by patients and health care systems.

SMBP are typically implemented in clinical and community settings. Policy support for SMBP is not universal since insurance coverage can vary across health systems and states. When SMBP is not covered through insurance, one may consider utilizing healthcare flexible spending accounts-

Overall, SMBP is an effective strategy shown to reduce the risk of death and disability associated with high blood pressure by enabling patients to monitor their own blood pressure levels.

## Team-Based Care



A strategy to enhance patient care by having two or more providers from different disciplines collaboratively working with each patient. Teams may be comprised of doctors, nurses, pharmacists, and community health workers.

Evidence of Effectiveness	Implementation Considerations	
<p>Effect  Implementation Guidance  Research Design </p> <p>Internal Validity  Independent Replication  External &amp; Ecological Validity </p> <p>Legend: Well supported/Supported  Promising/Emerging  Unsupported/Harmful </p>	<b>Setting</b>	Federally Qualified Health Centers (FQHCs), patient-centered medical homes, and managed healthcare systems across the United States.
	<b>Policy &amp; Law</b>	Scope of practice laws and organizational policies to facilitate team-based care in health systems.
	<b>Guidance</b>	From the American Medical Association (AMA) and Agency for Healthcare Research and Quality (AHRQ): <ul style="list-style-type: none"> <li>• <a href="#">STEPS forward</a></li> <li>• <a href="#">Practice Facilitation Handbook</a></li> </ul>
<p><b>Evidence of Impact</b></p> <ul style="list-style-type: none"> <li>• Shown to <b>improve hypertension control</b> among diverse patient populations along with being a <b>cost-effective strategy</b> for health systems that improve patients' quality of life.</li> </ul>	<b>Resources</b>	<ul style="list-style-type: none"> <li>• <a href="#">CDC's 6/18 Initiative</a></li> <li>• <a href="#">National High Blood Pressure Educational Program</a></li> <li>• <a href="#">American Heart Association</a></li> <li>• <a href="#">Institute of Medicine</a></li> </ul>

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Finally, **team-based care (TBC)** is a strategy that aims to enhance patient care by having two or more providers from different disciplines working together with each patient. Teams may be comprised of doctors, nurses, pharmacists, and community health workers.

The evidence of effectiveness for TBC is strong across the continuum of evidence framework- it has also been shown to improve hypertension control among diverse patient populations along with being a cost-effective strategy for health systems that improve patients' quality of life.

TBC is typically implemented in Federally Qualified Health Centers (FQHCs), patient-centered medical homes, and managed healthcare systems. Scope-of-practice laws and organizational policies that allow health care providers like nurses, physician assistants, pharmacists to practice to the full extent of their licensure and training can facilitate team-based care.

In sum, TBC is an effective strategy for promoting patient health by allowing providers from different disciplines to collaboratively provide care to patients.

## MAIN TAKEAWAYS

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Nancy will now conclude with the main takeaways.

## Summary of Effective CVD Prevention Strategies

Strategy	Evidence of Effectiveness Dimensions						Evidence of Impact			
	Effect	Internal Validity	Research Design	Independent Replication	Implementation Guidance	External and Ecological Validity	Health Impact	Health Disparity Impact	Economic Impact	
<b>Domain 3: Health Care Systems</b>	Team-Based Care to Improve Hypertension Control									
	Pharmacy Collaborative Practice Agreements to Enable Collaborative Drug Therapy Management									
	Self-Measured Blood Pressure Monitoring With Clinical Support									
	Self-Management Support and Education									
	Reducing Out-of-Pocket Costs for Medications									
	Implementing Clinical Decision Support Systems									
	<b>Domain 4: Community-Clinical Links</b>	Using Community Health Workers on Clinical Care Teams and in the Community								
Community Pharmacists and Medication Therapy Management										

Well supported/Supported Promising/Emerging Unsupported/Harmful Supported Moderate Insufficient

Thanks, Allison! At the end of the best practices guide document, we've included this strategy summary table that provides a way to quickly look and compare the ratings for each strategy. For example, in this table, you can quickly see which strategies have the best implementation guidance available, and which ones are most lacking in evidence on their economic impact.



## TRANSLATING EVIDENCE INTO ACTION

### Best Practices for Cardiovascular Disease Prevention Programs

A Guide to Effective Health Care System  
Interventions and Community Programs  
Linked to Clinical Services



Division for Program Evaluation and Research  
National Center for Chronic Disease Prevention  
and Control  
1600 Clifton Road, NE  
Atlanta, GA 30333  
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■ **The *Best Practices Guide (BPG) for Cardiovascular Disease Prevention Programs***: a translation resource that highlights strategies found to be effective in controlling high blood pressure and high cholesterol levels.

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In summary, **the *Best Practices Guide (BPG) for Cardiovascular Disease Prevention Programs*** is a translation resource that highlights strategies found to be effective in controlling high blood pressure and high cholesterol levels. The 8 strategies that are highlighted in this guide were carefully reviewed and selected through a rigorous process. The guide is a resource for state and local health departments, decision makers, public health professionals, and other stakeholders interested in using proven strategies to improve cardiovascular health.



WHEN?

FOOTER (OPTIONAL)

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I mentioned previously that we are currently updating the guide based on the latest evidence. We are currently in Step 4 of 6 of the Rapid Synthesis and Translation process: Synthesizing Results. We look forward to finalizing our guide and getting it out to users like you in 2022!

# Thank You

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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



## MODERATOR

This concludes today's Coffee Break presentation. At this time we will take questions from the audience, please enter your question into the Q/A feature at the bottom of your screen. As we wait for questions from the audience, I'll ask our presenters a question to help start the discussion.

Question: A participant in the audience might have the following question: Do you have suggestions for how to approach and begin implementing strategies included in the guide?

Answer: I think one of the most important things to consider when reading the guide is to consider how each of the strategies work together and overlap, rather than looking at the strategies in isolation. Most cardiovascular disease prevention programs utilize multiple strategies to address heart disease and stroke among their respective population, so being able to make linkages across strategies is critical to successful implementation efforts. I would also advise readers to dig further into the specific resources and guidance included in the guide, which can help translate knowledge into actions they can take to best address cardiovascular health in their

community.