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.
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. 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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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.

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)
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.
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 1st 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.
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.
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.
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.
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.
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.
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

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
I will now turn over the next part of the presentation to Allison.
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 DH DSP’s website.
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, 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 (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 increase 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, 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 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.

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.

Implementation Considerations

<table>
<thead>
<tr>
<th>Setting</th>
<th>By health care providers and plans, government agencies, and employers who offer insurance plans to their employees.</th>
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<tbody>
<tr>
<td>Policy &amp; Law</td>
<td>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.</td>
</tr>
<tr>
<td>Guidance</td>
<td>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.</td>
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| Resources | • CDC’s 6/18 Initiative  
• CDC’s Medication Adherence Action Guide |

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.
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 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.

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 Impact**

- 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.

**Implementation Considerations**

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<tbody>
<tr>
<td>Policy &amp; Law</td>
<td>Scope of practice laws and organizational policies to facilitate team-based care in health systems.</td>
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<tr>
<td>Guidance</td>
<td>From the American Medical Association (AMA) and Agency for Healthcare Research and Quality (AHRQ):</td>
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<tr>
<td>Resources</td>
<td>CDC's 6/18 Initiative</td>
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<td></td>
<td>National High Blood Pressure Educational Program</td>
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<td>American Heart Association</td>
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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.
Nancy will now conclude with the main takeaways.
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.
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.
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!
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.